THE BUILDER

Incorporating

ARCHITECTURE & THE BRITISH ARCHITECT

THE BUILDER HOUSE, CATHERINE STREET, ALDWYCH, LONDON, W.C.2. Telephones: Temple Bar 6251-2-3-4

VOL. CLXXXVI JANUARY 22, 1954 No. 5788

PRINCIPAL CONTENTS

ARTICLES

	PAGE
CORRESPONDENCE	168
COMPETITIONS OPEN	168
REBUILDING THE CITY: Minister's Speech	170
ECONOMY IN BUILDING: RIBA Address	171
IAAS: Brighton Meeting	182
BUILDING FOR AGRICULTURE: AA Symposium	183
WAR DAMAGE PAYMENTS IN 1953	185
HOUSE-BUILDING WITH TOWER-CRANES: Lecture Course	185
LONDON BUILDING ACTS AMENDMENTS	186
COAL OR ARCHITECTURE? Rival Claims at Inquiry	187
HOUSING COMMITTEES: Builders as Members?	187
INQUIRY BUREAU	188
BUILDING OUTPUT: National President's Forecast	188
WAGE INCREASES	188
BUILDING EXHIBITIONS: Willesden and Norwich	189
NFBTE PRIZE SCHEME: 1953 Awards	189
CODE OF PRACTICE	189
LMBA: Annual Meeting	190
EASTERN FEDERATION: President's Review of 1953	192
GOODS DEPOT, BURY ST. EDMUNDS	193
ACCIDENT RECORDS: Safety Group's Talk	194

ILLUSTRATIONS

AIRLINES OFFICES, NEW BOND STREET: By K. Dod	173
CANTEEN AT COWLEY LANE, UXBRIDGE: By F. Scarlett	174
DUKE OF YORK'S HEADQUARTERS, CHELSEA: By H. Dicksee	176

THIS WEEK'S NEWS

A PLEA to adopt better architecture and fine standards of craftsmanship in the new buildings for which they would be responsible, was made by Sir David Eccles to representatives of the authorities and developers of the City of London at the Mansion House on January 14. *p.* 170

THE SEARCH for possible savings in the cost of a building should start from the early planning stage, said Mr. H. F. Broughton, when he read a paper on "Economy in Building" at the RIBA last Tuesday. *p.* 171

SOME IMPORTANT AMENDMENTS to the London Building Acts, which are proposed in the London County Council (General Powers) Bill now before Parliament, are summarised on *p.* 186

A WAGE INCREASE of a 1*d. an hour has been awarded by the National Joint Council for the Building Industry in accordance with the sliding-scale agreement.* *p.* 188

THE MINISTER OF WORKS, speaking at a luncheon before the LMBA annual general meeting on Tuesday, analysed the £25m. worth of work a month that is to be carried out in Greater London this year. *p.* 191

GLASGOW CORPORATION has approved a decision to send a deputation to Marseilles to study the Le Corbusier multi-storey flats in that town. *p.* 200

REBUILDING THE CITY

THE welcome accorded the Government's decision last year to speed up the issue of licences for rebuilding work in the City to a value of one million pounds a month was tempered in the minds of many by reservations about the possibility of failure to take advantage of the opportunities presented to create a City of London worthy of our time. There was certainly ground for misgiving. Many of the buildings erected in the City since the war are architecturally most disappointing. The vision of a new City planned and designed to meet contemporary needs in a contemporary way has been rapidly fading. Where building has been or is being done it often appears either as great piles of unimaginative neo-Georgian brickwork or ponderous pseudo-Classical elevations decked out with gross excrescences of ornamental masonry. The City is obviously reluctant to abandon its tradition of formal planning and "monumental" elevations. Even when this sort of thing was done with artistry and restraint by distinguished architects, as it often was before the war, it was often criticised because of (*a*) the general inefficiency of planning involving gloomy internal "light" wells, and (*b*) the obvious undesirability of clothing structural steelwork with Classical trappings.

If there were any encouraging signs of a new outlook in the rebuilding of the City one's fears for the future might be lessened, but there are few signs of any significance. On the contrary, any movement towards imaginative treatment has too often met with opposition. Would-be developers prefer to play safe and serve up the mixture as before, or even worse than before; for many of the schemes that have been lately advertised in the Press as pending are prosaic to the point of platitude.

It is gratifying to note that the disaster which threatens the City is now recognised by the Government. Sir David Eccles, Minister of Works, made this clear in a forceful speech which he gave last week at a luncheon party given at the Mansion House by the Lord Mayor to authorities and developers of the City of London (reported elsewhere in this issue). The Minister made no attempt to hide his alarm. Unless swift and effective action were taken, he said, we should see "fat and familiar, mediocre and characterless neo-Georgian architecture rising from Hitler's ruins to betray the confident spirit of the new reign" (as indeed we do already). Many people, he continued, told him that it was too late to seize this second opportunity to rebuild the City in a worthy style, but he refused to believe this, and he is right, for there are large areas of devastation yet to be dealt with. The thing to do at once is to call a halt to any scheme that is likely to be out of accord with the new concept of the City that the Minister and his advisers clearly have in mind.

Sir David stated that responsible people were to-day asking him to use the licensing system to impose a coherent design in the City; but he prefers, rightly as we think, to leave the solution of this problem to the willing co-operation of developers under the guidance of a co-ordinating body. But there are several prerequisites if the voluntary method is to be a success. The first is a readiness to abandon conventional ideals and to adopt, where necessary, modern planning and its corollaries of contemporary structure and elevational expression. Wherever possible large sites must be redeveloped in a big way on what is called, somewhat imprecisely, the "open" principle in order to secure the better access, light and air that are thus afforded. (Incidentally, the advantages of the new planning, the all-round benefits of lightness and elegance in office buildings, were ably summarised in the article on the subject contributed by Messrs. Humphrys

and Hurst to our last issue.) Another requirement, as the Minister pointed out, is a willingness on the part of developers to submit their plans by areas for co-ordination by some body looking at the layout as a whole in order to ensure harmony in horizontals, skylines and materials. The Minister promised, if it would help, to consider giving licences by areas where plans had already been so co-ordinated.

But the most important need of all is for developers to make sure that they engage the right architects for their projects. It is no secret that some architects with City practices are content to carry on in the old way, and resolutely turn their backs on anything that looks like progress. For such there can be little scope in the building of the new City. If they are unwilling or unable to co-operate in an enlightened technique of redevelopment, as outlined by the Minister of Works, they should gracefully retire and make way for those who can and will.

The Minister, in his speech, recognised the "difficult job" confronting the Planning and Improvements Committee and the planning officers of the Corporation, and asked that it should be considered whether the existing machinery was "adequate to avoid disaster." The City Corporation is rightly jealous of its authority over the historic "square mile," but if the machinery were indeed found to need strengthening, the City Fathers, we may be sure, would allow no consideration of prestige to stand in the way. That the RIBA, if called upon, would be ready with help and advice may be taken for granted.

Everyone who wishes to see a finer, a more convenient and a more healthy City rise from the ashes of the old will be grateful to the Minister of Works for the courageous and imaginative lead he has given. It remains for those most intimately concerned—the City Corporation, the developers, the planners, the architects, the builders and the co-ordinating body—to see that the opportunity of redeeming the City, which had almost slipped from our grasp, is now turned to good account.

BUILDINGS FOR AGRICULTURE

AGRICULTURE is Britain's largest single industry. Its building equipment is in bad repair and largely outdated. At the present rate of progress it will take some 30 years to bring even the dairy farms up to the required very moderate standard of efficiency and hygiene laid down in the Milk and Dairies Regulations. About 3,000 farms are being up-graded each year; there are 100,000 still in the queue. It is unlikely that the country at large will forever be content with such a snail's pace. Yet even at that pace, the programme of private building in the countryside is not negligible: some £15m. to £20m. have been spent each year since the war, and the urgency of farm building work has been recognised by freeing it, to all intents and purposes, from licence restrictions as from the New Year. It may not be far off the mark to look forward to about £25m. to £30m. worth of agricultural buildings per year, in future years. The present rate is hardly sufficient to stop even the legacy of decay with which we are faced.

The size of the programme, economically speaking, may perhaps not compare with such enormous enterprises as the housing drive, but its importance to the countryside at large is greater than its mere money value makes apparent.

Building on farms has gone on steadily ever since the war, and it begins to make itself felt. One result has been that the Council for the Preservation of Rural England has got quite worried about its effect on the countryside. Let us for the moment discount the agricultural benefits of £150m. of post-war improvements and look for some such inspiration as we have grown to expect from our new school buildings or such satisfaction as we may feel about the contribution of the New Towns, or of housing in general, to the scene. If we want such a contribution, it is somewhat discouraging to look at the new buildings on our farms. There are some signs that architects are getting more interested in agricultural buildings. The recent Symposium on Buildings for Agriculture at the Architectural Association* showed that there exists a considerable number of architects who are farmers in their own, or their wives', right, and have not given up their architectural ambitions nor found it beneath their dignity carefully to consider the farmer's many dilemmas and contradictory requirements. There are some owners and land agents who consult architects or are themselves good designers.

Nevertheless it is fair to say that a certain estrangement exists between farmers and the architectural profession and architecture itself. There are so many reasons for this fact that it is not possible here to analyse this unfortunate relationship. But the fact that farmers and land agents are not very enthusiastic about the usefulness of architects and are even less convinced of the need for design, begins to lead to a deterioration of the rural scene in many instances. In others mere tidiness and preservationism have made the best of a job that under happier conditions might have been a real contribution to the countryside.

For the moment a solution may lie partly in an improvement of the prefabricated components of which most farm buildings are nowadays constructed. British Standard Specifications might usefully be revised with due consideration for design. Farm Buildings Advisory Officers might be encouraged to include the visual aspect in their legitimate terms of reference when they advise farmers and prepare small development plans for them.

In the long run it must be up to the farmers, the land owners and the architects between them to overcome this out-of-date attitude that good design is something that properly belongs to the domestic sphere, the Church, the State, the Festival of Britain, perhaps even to the factory and the school, but never to the farm. A manner of design has to be found that expresses the sobriety and austerity that farmers think appropriate, and the simplicity and generosity that all agricultural buildings from their nature are bound to have. Once architects can design in this manner, and solve the technical problems of planning and circulation with the skill that has come to them through long experience and which farmers cannot possibly muster, there is no doubt that they will be able to convince the farming community of their usefulness.

Architects can by their knowledge of materials calculate beforehand the likely outcome of a proposed scheme: with food at £40 per ton, insulation can be shown to pay for itself in cases where a cheaper construction would have been the obvious choice of the farmer unaided. One pig per litter saved by careful detailing of a farrowing floor earns the farmer up to £10 per year more and ten additional beasts fed by a stockman by skilful routing and arrangement of the plan mean £40 to £60 per annum more net profit for the farmer. It is not hard to work out the capital value of such annual gains.

There has never been a time—in the words of Mr. Frank Henderson, a well-known Oxfordshire farmer—when capital was so easily available. And Professor Edgar Thomas, Professor of Agricultural Economics at Reading University, is quoted as saying that he has yet to meet a farmer who could not raise money for a sound project. With profits reasonably expected to be around £35 per dairy cow, between £2 to £5 per pig, or between £20 and £40 per 100 laying hens, there is no longer much force in the argument that ugliness is a necessary concomitant of cheapness, and cheapness of penury.

* A full report of this Symposium began in our last issue, and is concluded this week.—ED.

NOTES & NEWS

WALLPAPER EXHIBITION

WALLPAPERS and furnishing fabrics are a field in which one does not have to worry too much about good design, writes Basil Marriott. Whether by tradition or inclination, this field has always attracted good designers, and to-day it would be an unusually pernickety customer who failed to find something to his (or her) taste in the current ranges—provided they are sought at "headquarters," where the largest choice is available.

Sandersons have for years shown wallpapers and fabrics at Berners-street, not as dead "swatches" flipped over by persuasive salesmen, but as live peep-shows suggesting context in the way of furniture, lighting and other incidentals. This is sensible and good business, for it is an unusually intelligent layman who can infallibly judge the effect of colour, pattern and texture from a small sample, and even those of us who claim to know what we like sometimes get a shock when we see it spread over a whole room.

PREVIEW OF 1954

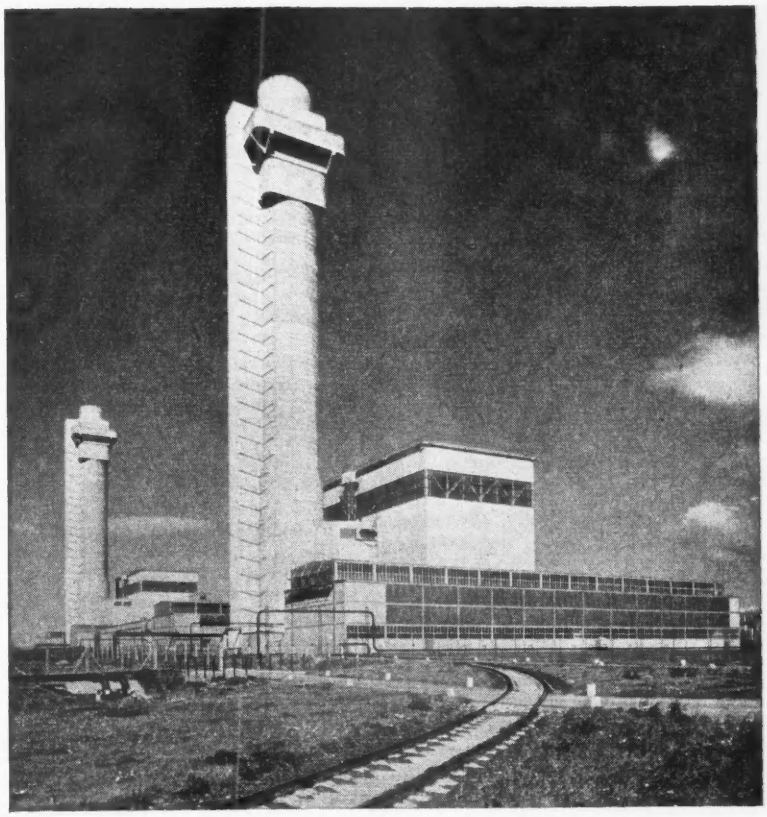
THIS permanent showroom technique is periodically supplemented by an "open house" in the way of an exhibition which combines the party spirit with an opportunity to browse in comfort. This year's is arranged in collaboration with the Council of Industrial Design, and centres round a "core" of furnished rooms arranged by A. J. Milne, MSIA. These contain what have become the familiar earmarks of impeccable and progressive contemporary design, and are none the worse for being virtually standard décor for those of us who are both comparatively civilized and comparatively well-off; the two are not always synonymous.

Wallpaper and printed textiles have enjoyed a remarkable come-back since our emergence from austerity, utility and the sillier sort of functionalist doctrine which denied all fun-and-games except the "intrinsic decorative qualities of natural materials and components." In fact, their weakness seems to me the ease (though no longer the economy) with which they can be changed to suit passing fashion.

I also suspect that the field appeals to the more superficial type of designer as pure surface decoration in which he (or she) doesn't get too involved with technical problems. While this continues, there will be no lack of freshness and elegance, as it is a field that can afford to follow fashion pretty closely.

I was interested to hear that 70 to 80 per cent. of the designs are domestically produced, with occasional "transfusions" of outside or free-lance inspiration. This says a good deal for the firm's design training methods—or else for an unusually perceptive grasp of what the public is going to want—refreshingly different from the usual formula of repeating what the public bought last time. Builders' merchants and agents please note.

This "Three Arts" exhibition remains open at Sanderson's until January 29.



THE WINDSCALE PLUTONIUM-PRODUCING FACTORY AT SELLAFIELD, CUMBERLAND. The filters at the top of each of the 400 ft. chimneys prevent the escape of the last traces of radio-active matter. Each pile, with its stack, weighs some 57,000 tons, and rests on a 10 ft. thick concrete bed, measuring 200 ft. by 100 ft. Designed by Chief Architect's Department, Ministry of Works.

COMING EVENTS

MONDAY, JANUARY 25

STUDENTS' PLANNING GROUP. "The South Bank Project," by Mr. Arthur Ling, AMTPI. 28, King-street, WC2. 6.30 p.m.

TUESDAY, JANUARY 26

FEDERATION OF CLINKER BLOCK MANUFACTURERS.—Annual lunch. Principal guest: Mr. A. E. Marples, MP, Parliamentary Secretary, MOHLG. Holborn Restaurant, WC. 1 p.m.

FACULTY OF ARCHITECTS AND SURVEYORS AND THE FACULTY OF SURVEYORS OF ENGLAND.—"The Legal Responsibility of the Architect and Surveyor," by Mr. Brian P. Calwell. Caxton Hall, SW1. 6 p.m.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS.—Annual dinner and dance. Dorchester Hotel, W1. 7 p.m.

RICS—Conference of agricultural members. 12, Great George-street, SW1. 11 a.m.

WEDNESDAY, JANUARY 27

ARCHITECTURAL ASSOCIATION.—"Theory and Practice of Art in the Soviet Union," by Mr. John Berger. 36, Bedford-square, WC1. 8 p.m.

NFBTE—Annual general meeting. Liverpool Victoria Friendly Society Building, Bloomsbury-square, WC1. 10.30 a.m.

INSTITUTE OF QUANTITY SURVEYORS.—"Examination Essentials," by Mr. H. Vincent Mace. Royal Hotel, College Green, Bristol 1. 7.30 p.m.

HAMMERSMITH SCHOOL OF BUILDING AND ARTS AND CRAFTS.—Unveiling of memorial plaque to the late Herbert W. Mole, FRIBA. Lime-grove, W12. 11 a.m.

THURSDAY, JANUARY 28

INSTITUTION OF STRUCTURAL ENGINEERS.—"Design and Construction of a Welded Portal Frame Warehouse Building Designed By the Plastic Method," by Mr. E. J. Callard, MA, MIMechE. 11, Upper Belgrave-street, SW1. 5.55 p.m.

FRIDAY, JANUARY 29

INSTITUTE OF BUILDING ESTIMATORS (LONDON AND HOME COUNTIES REGION).—Debate on bonus schemes. "Albert Tavern," 52, Victoria-street, SW1. 7 p.m.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS. Annual dinner and ball. Park-lane Hotel W1. 7 p.m.

MAINTENANCE SCHOLARSHIPS

THE Architects' Registration Council of the United Kingdom offer for award in June, next, certain maintenance scholarships in architecture. The scholarships, which will consist of a grant for the payment of one-third of the school fees, and, when necessary, a maintenance allowance, will be renewable from year to year. They will be available for students of British nationality who could not otherwise afford such training to enable them to attend architectural schools approved by the Council. Particulars from the Secretary to the Board of Architectural Education, ARCUK, 68 Portland-place, London, W1. Copies of previous years' examination papers may be obtained on payment of 6d. The closing date for the receipt of applications, duly completed, is February 1, 1954.

LIFE IN AD 2000

A BICENTENARY COMPETITION has been organised by the Royal Society of Arts, using as its general subject "The practical aspects of life on this earth in the year 2000." Competitors are required to submit their forecasts of a single aspect of life at that period either in written or visual form, such as drawings and models. The quality most looked for in the entries is originality, but the judges will bear in mind the degree to which they are con-

cerned with practical matters. The prizes offered are as follows: first prize £250; second prize, £100; third prize, £50; and ten prizes of £10 each. Completed registration forms should be forwarded to the Secretary not later than February 15, and these are available from the Society's offices, John Adam-street, Adelphi, WC2.

NEW APPOINTMENTS

BOOTLE (Lancs) BC has appointed Mr. W. C. Pertree, of the Borough Surveyor's department, to the post of Housing Architect; Mr. W. H. Maloney as schools' architect; and Mr. J. M. Radcliffe as chief assistant engineer.

PROFESSIONAL ANNOUNCEMENT

MR. H. W. MAXWELL HARRISON, FRICS, FIArb., chartered quantity surveyor, of 106 Colmore-row, Birmingham, 3, has taken into partnership MR. R. H CLAPPERTON, DFC, ARICS. The firm will continue the practice from the same address under the title of MESSRS. MAXWELL HARRISON, chartered quantity surveyors.

FROM "THE BUILDER" OF 1854

Saturday, January 21, 1854

TUBULAR DRAINAGE. — Mr. John Frances, surveyor, in a report to the paving, sewering, and highway's committee of the council of the city of Manchester, states that the seventh year's experience in tubular sewerage has served further to strengthen his conviction of the complete adoption of glazed fire-brick tubes to the purpose of town drainage, under judicious regulations. The Manchester system of sending through the tubes not only house-sewage, but the general surface drainage of the town, up to the measure of their capacity, he says, is preferable, and has met with a success unknown to the "separate system," because the tubes are flushed in every shower and storm, and deposit is thereby prevented or removed.

COMPETITIONS OPEN

CHURCH AT SIGHTHILL, EDINBURGH.—Promoted by the Church of Scotland Home Board, Premiums: £750, £450, £300, £200 and £100. Assessors: Professor Robert H. Matthew, CBE, MA, ARIBA, ARIAS, Mr. Harry Taylor, ARIBA, ARIAS, Architect to the Church of Scotland Home Board, and the Rev. Professor J. G. Riddell, DD, Convener of the Church of Scotland National Church Extension Committee. Closing date: January 30, 1954. Last day for questions: October 15. *September* 4, 1953.

SECONDARY SCHOOL, FALMOUTH.—Promoted by Cornwall County Council. Assessor: Mr. Howard V. Lobb, CBE, FRIBA. Applications to Mr. E. T. Verger, Clerk to the County Council, County Hall, Truro, by October 31, 1953. From the applications received, a limited number will be selected to compete, each competitor receiving £350 for the preparation of his design. Designs to be submitted by the middle of March. *September* 18, 1953.

CREMATORIUM, KIRKCALDY. Promoted by the Royal Burgh of Kirkcaldy, Fife. Premiums: £300, £200, £100. Assessor: Dr. Ronald Bradbury, FRIBA, AMTPI. Closing date: May 8, 1954. Last day for questions: February 20, 1954. *December* 25, 1953 *and January* 15, 1954.

CANADIAN HOME OF TO-MORROW—Sponsored by McGill University's School of Architecture, Montreal. The Calvert House International Award and $5,000 (approx. £1,825) will be given for the design judged best of all entries. Separate awards and $2,500 each will be given to the best designs from Europe and from Canada, exclusive of the international selection. There are also ten hon. mention awards with a $200 prize each. Professional Advisers: Prof. John Bland and Prof. Pierre Morency. Jury: Eric Arthur, FRIBA, Humphrey Carver, ARIBA, and Gio. Ponti, Italian architect, and editor of Domus, Milan. *December* 18, 1953.

Date at the end of each paragraph indicates the issue of "The Builder" in which details of the competition appeared.

CORRESPONDENCE

THE OPERATIVES' WAGE CLAIM

To the Editor of *The Builder*

SIR,—True, the calculation referred to (your last issue) was mentioned in the *Operative Builder* Supplement, as you rightly say, but we were quoting the employers' argument. We do not admit that argument, as the Supplement makes perfectly clear. In reply to your specific inquiry as to what we consider a proper estimate [of the additional cost to the industry were the 9d. per hour wage claim to be admitted] the answer is—Nothing.

R. COPPOCK,
General Secretary, National Federation of Building Trades Operatives.
Federal House, Clapham, SW4.

AN IoB EXAMINATION

To the Editor of *The Builder*

SIR,—I was interested to read a letter from Mr. Harold Ford referring to the Institute of Builders' examination [*The Builder*, January 8].

It would appear that this Institute has not changed its ways. Some years ago, I made application to sit for an examination which I felt confident I would have passed, but my application was first ignored completely and, after correspondence, I received replies which made it obvious that the Institute was not a bit interested in my application.

I am at a loss to understand the attitude of this Institute and wonder if it is to be regarded as a "closed shop."

W. R. HERBERT [FIQS].
West Lodge, Perry-street, Chislehurst.

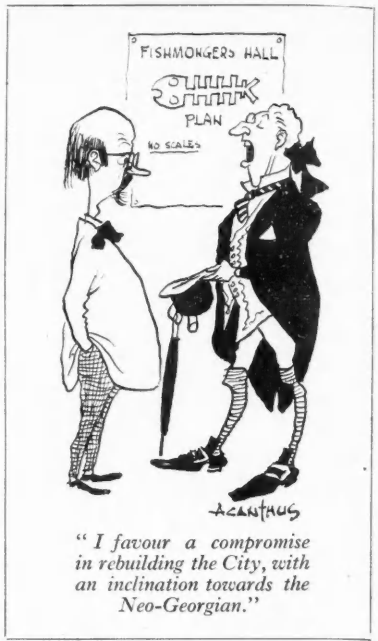
"PROBLEM OF THE UNQUALIFIED"

To the Editor of *The Builder*

SIR,—We wondered as we read your leader upon "The Unqualified" [*The Builder*, January 8], what the reactions of your many readers must be. Here we see a deliberate effort by certain professional bodies to eliminate all competition outside the ranks of their own Institutes, even to the extent of endeavouring to coerce public servants into neglecting their duty to the public they are paid to serve. This, in our estimation, is utterly shocking and millions of lives have been sacrificed in the past few years to protect the very freedom with which the RIBA wish to dispense. One of the fundamental rights which has been cherished in this country for centuries is the right for any man to earn an honest living in a manner best suited to his temperament and talents.

We in this firm have spent a lifetime in the building industry. Initially our education was second to none. Years were spent in a building college studying design, construction and all the multifarious sides of the industry. Still more years were spent actually supervising building operations of all kinds and sizes. During all this period the latest technical books were purchased and carefully studied in order that we should keep up to date. Now that we consider that we have assimilated sufficient knowledge, we have turned exclusively to design and its many allied problems.

Having touched bricks and mortar we are, of course, prohibited by the professional Institutes from taking their examinations or joining them as member." Now we are also told that every effort is going to be made by these Institutes to deprive us of our daily bread!



"I favour a compromise in rebuilding the City, with an inclination towards the Neo-Georgian."

We advise the RIBA to think most carefully before taking the retrograde steps which their Committee has suggested. The bland assumption that all the sheep in the RIBA pen are spotlessly white and all the sheep outside it jet black would not for one moment be supported by the general public. For years the architect has consistently refused to help the lower income groups, and the hideous development which took place between the wars can, by default, be laid fairly and squarely on his shoulders. Scale fees for the smaller work are, quite frankly, exorbitant. Far too much emphasis is placed upon the drawing and little or none upon supervision. We suggest that this has arisen because the architect, by his very training, emphasises the æsthetic and ignores the practical side of his work.

He will, however, be forced by sheer economic circumstances to reverse this order of things. A close study of the Working Party Report on American building practice shows clearly the benefit which will accrue to the industry by a revolutionary approach to the subject. In the brave new England which we envisage and which we are helping to build, craftsmen, builders, architects and surveyors will form an equal partnership in which all of us who have the building industry at heart will take part.

JOHN AUSTIN AND PARTNERS
[Surveyors and Building Consultants].
Ellerslie-chambers, Bournemouth.

THE COST OF VARIATIONS

To the Editor of *The Builder*

SIR,—The main theme of a talk to junior quantity surveyors by Mr. W. Tompkins, extracts of which were published in *The Builder* of January 1, was that variations made in the course of work form one of the reasons for the high cost of building because "the disorganisation which occurs due to even a minor variation is out of proportion to the price he (the contractor) receives for it."

If it were possible to assess the average extra cost for changes authorised during the progress of a contract over the cost that would have been incurred had the whole been part of a planned programme of work, it should be a simple matter to allow in the contract for all authorised variations (except the remeasurement of provisional items), to be subject to a percentage addition to the tender rates to allow for the so-called "disorganisation." Unfortunately, the degree of disorganisation varies with both (*a*) the type of variation (which is quite distinct from the extent of variation), and (*b*) the effectiveness of the planned programme.

In the past, I, too, have sounded Mr. Tompkins's call but, after a few more years, as an onlooker, I begin to wonder whether the disorganisation due to variations is any greater than the disorganisation which exists already apart from variations! If contractors set such store on organisation, why is it that the more highly detailed bills of quantities based on carefully detailed plans so often appear to result in higher tender rates?

The time to stop hindering organisation will come when organisation gets moving; there is no reason, of course, why we should not keep in step.

RALPH E. BULLOCK [ARICS, AIArb.]
Braders, Tunbridge Wells.

P.S.—On a different subject may I say how much I appreciate Mr. Roper's letter on page 5 of the same issue.

A STANDARD DRAFT-BILL OF QUANTITIES

To the Editor of *The Builder*

SIR,—I have followed the correspondence regarding the above and must state that I feel that a standard draft-bill can only be practicable on one class of work, namely, housing. Apart from this important exception, I am glad to say that I have never had two jobs that were sufficiently similar to warrant any consideration of a standard draft-bill.

But an even more important issue has been raised in Mr. Stafford's letter (*The Builder*, January 8) in which he deplores the combination of the specification with the bill of quantities. For several years, I have included in the majority of my bills a number of specification notes which indicate the position in the building of all items measured in the bill which are not easily shown (or are not apparent) on the architect's drawings. All clauses relating to general contract conditions, preliminary items, descriptions of workmanship and materials and preambles affecting prices in all trades are given at the beginning of the bill. In this way architect, general foreman and clerk of works have only one document (apart from the drawings) to study to find exactly what has been taken in the contract.

I have had considerable appreciation expressed by many architects, foremen and clerks of works who have used the combined bill and specification, and I am of the opinion that to have the two as separate documents is an out-moded procedure.

R. T. DAY [FRICS, FIArb.]
77, High-street, Brentwood, Essex.

HUMOUR IN BUILDINGS

To the Editor of *The Builder*

SIR,—Mr. John Betjeman, in his informative as well as amusing talk at the RIBA on January 5 (your issue of January 8), referred to "architectural jokes," instancing Regent-street Quadrant—Brewer-street junction, Sicilian-avenue, and a building in Buckingham Gate (which one? one wonders). I have long derived and shared with others enjoyment from certain humorous buildings (or rather, as the humour was presumably quite unconscious, comical buildings), notably the following three (in chronological order):

(1) Peterhouse College Chapel, Cambridge (exterior), a laughable mixture of medieval and renaissance motifs, 1628-32; architect unknown.

(2) St. Katharine Cree, Leadenhall-street, London (interior), Ionic columns and a rose window, about the same time—1628 onwards; formerly ascribed, probably wrongly, to Inigo Jones.

(3) The gatehouse front of the Guildhall, London, to Guildhall Yard, 1788 onward; architect, George Dance, junr. (The right-hand half was rebuilt, to the same design, c. 1909-10, by Sydney Perks.) This is a comical mixture of quasi-Gothic and near-miss-Muhammedan, the most laughable building in London, I often think. Incidentally, it is a curious and early offshoot of the Gothic revival.

Recently I have discovered from a photograph (having missed it on the spot) another: the east front of Brasenose College Chapel, Oxford, facing Radcliffe-square, 1656-59; John Jackson, master mason—later than (1) and (2). I see that Mr. Lees-Milne calls this "a shameless mixture of Gothic and classical motifs" (*Age of Inigo Jones*, Fig. 53).

The astonishing thing is that these "transitional" features occurred so long after the first introduction of renaissance ideas (1512).

H. V. MOLESWORTH ROBERTS.
Wallington, Surrey.

THE SPECIALIST TRADES

To the Editor of *The Builder*

SIR,—I have read with interest Mr. Arthur W. Kenyon's letter in your issue of January 1, and it is quite apparent that the suggestions put forward by him, if adopted, would result in the complete abolition of the nominated sub-contractor.

Nominated sub-contracting, a system which has been in being for many years, has been encouraged by everyone in specialist industry, and by the organisations which represent groups of specialists, as one method of giving financial protection to the sub-contractor, and, if the nomination system is to cease, then it is obvious that the specialists' interests would have to be safeguarded in some other way, possibly by direct contracts.

Furthermore, the suggestions put forward would completely destroy the archi tect's own position. No architect can be expected to have sufficient knowledge of all the technical aspects of the specialist trades to enable him to deal with the complexities of modern building practice; it would be impossible for him to do so and, because of that fact, he uses the nominated sub-contracting system in order to employ the technical experts of the trades concerned.

It is a fact that in some contracts as much as 70 per cent of the work is sub-contracted, so that the proportion of technical assistance that the architect receives is very high.

I am of the opinion that the abolition of the nominated sub-contracting system would not result in the main contractor carrying out more of the work himself, except possibly in a very few instances, nor would it obviate specialist trades attending site meetings with the architect and contractor, but it would encourage not keener competition but acute price cutting. This must inevitably result in a lowering of the standard of the work required, despite all the safeguards which could be put into force as regards specification, production of samples, and so on.

The modern tendency is for the architect to recognise the specialist as a consultant, just as he does the consulting engineer, and this is one of the factors that has fostered a close liaison between architects and sub-contractors, often personal and individual, as Mr. Kenyon states.

It is to be hoped that this liaison, which is essential for the wellbeing of the building industry, will continue and increase for, if the identity of the specialist is obscured, then I feel that the responsibilities of the architect would not be lessened but substantially multiplied.

W. G. J. LONDON,
The Lawford Asphalte Co., Ltd.
Bow Bridge, London, E15.

ACCIDENT PREVENTION

To the Editor of *The Builder*

SIR,—With nearly half a century's experience in the building industry, and as the founder of the Hull and District Industrial Safety Council and in the name of humanity, I support your leading article of December 25 to the full. The building industry, both operative and operator, in a spirit of goodwill, must reduce the killing and injury through lack of awareness, lack of safety training, plus carelessness, within their industry.

We all deplore more legislation being brought in with more inspectors and more forms, and so on, but there will be no alternative in the distant future if the industry does not act for itself.

Mr. Tomalin (your issue of Jan. 8) deals with one branch of the industry, a new one within the last 50 years, whereas every building operation on the ground, scaffold or roof, whether it be repairs, or alterations, large housing scheme or public building, is, because of apathy and the "steeped in the mentality of the past" attitude of the building industry, seething with danger. If principals of building concerns and managing directors took a personal interest in accident prevention, casualties would be reduced to a minimum and so save the heart-burning of mothers, wives and children at the injury of their relative, or possibly his death, through the present neglect on the part of the principals of their duty to their workers and workers to their mates.

ROBERT G. TARRAN.
Hull.

REBUILDING THE CITY

Sir David Eccles's Plea for Better Architecture

IN 1949 the Government fixed a yearly figure of £1m. for licences for new office building in Central London. This was reduced by 20 per cent. at the beginning of 1950 when capital investment restrictions were imposed. In June, 1951, a ban was placed on all office building.

With steel in better supply the present Government relaxed the licensing system for large buildings, and in February, 1953, £7m. worth of licences were granted to the City, and a further £5¼m. just before Christmas. The Minister then said the issue of licences is to be speeded up to attain a level of expenditure by contractors of £1m. a month.

These facts formed the background to the speech by SIR DAVID ECCLES, MP, Minister of Works, at a luncheon party at the Mansion House on January 14, when he made a plea to the representatives of the authorities and developers of the City present to adopt better architecture and fine standards of craftsmanship in the new buildings for which they would be responsible. Sir David Eccles said : The persistent patriotism of Sir Rupert de la Bère and of you, my Lord Mayor, has won the battle for the rebuilding of the City of London. Soon work in progress will be exceptionally high, judged by the country as a whole. That this should be so is because my colleagues in the Government are fully convinced that the City has an importance far beyond the few hundred acres that lie within its boundaries.

And what is it that so amply justifies this special treatment ? There comes to mind an age-old marriage of commerce and prestige. We value the City as the insurer, shipper, trader and banker of the sterling area ; and as the headquarters of an aggregate of firms who earn more foreign exchange than any single industry. But that is not all. The capital of the Mother Country of the Commonwealth is famous for more than money-making. Here is the setting where Kings and Queens and great citizens are honoured, and great events are fitly and nobly celebrated. We may say that the City is both a trustee and a trumpet of the nation's glory.

THE STANDARD REQUIRED

The building which is good enough for carrying on a business may well fall below what is required to maintain the honour of your great City. Indeed, the layout, appearance and equipment of the new offices, where so much trade will be done, which so many of our friends from overseas will visit, and near which such historic scenes will be staged, call for a deliberate decision to adopt standards of fine architecture and craftsmanship which transcend humdrum commercial utility.

Has this decision been taken ? What grounds are there for thinking that the City when rebuilt will be worthy of our past, of the modern Commonwealth, and of our Sovereign Lady who has called on us to make this an age of courage and achievement ?

How shameful it would be if a generation hence, instead of praise for the new buildings, there was a general lament that so great an opportunity had been thrown away !

I wish to be blunt about the disaster which threatens. I fear that unless swift and effective action is taken we shall see fat and familiar, mediocre and characterless neo-Georgian architecture rising from Hitler's ruins to betray the confident spirit of the new reign.

What is the state of British architecture to-day ? For longer than one cares to remember we have been uncertain what sort of buildings were good. This hesitation has been understandable. Between the wars we were all at sea about the future of our country. Naturally artists could not make much of that age of indecision. They either played safe with weedy classical imitations or they evaded the problems of this age with self-centred abstractions that have aroused more attention than they deserve.

A NEW CONFIDENCE

Since the last war, however, we have begun to shake off the frustrations of the 1920s and 1930s, and a number of architects, at work on schools and on some of the other large projects the Government has been able to license, have used new materials, methods, and designs to produce buildings of real character which do express that revival of confidence which we now feel in ourselves.

No one suggests we should copy the architecture of Zurich or Rio de Janeiro or New York. Each country has its own peculiarities which shape its art.

There are British architects who are well able to interpret the circumstances and requirements of our generation. Give them the chance and they will translate the mysteries of the City's landscapes and weather into architecture which will satisfy their employers and excite public admiration.

Many people tell me it is too late to seize this second opportunity to rebuild the City in a worthy style. I do not believe it. What then shall we do ?

Except in the last resort this is not a job for the Government. Indeed, it is my political philosophy that the gentlemen in Whitehall cannot always know best.

There is a lesson here to be learned from the Building Lessor Schemes which the Government has sponsored since the war. Some of these buildings have lacked distinction. This experience shows that you only get good architecture if the developer demands it and the architect is capable of producing it.

To-day responsible people are asking me to use the licensing system to impose a coherent design in the City of London. But this would be a wrong use of the powers. It is, however, as well to realise that the distinguished men, who draw up the development plans, say most useful things about the layout of streets and the size of buildings, but have very little influence on what the public sees when the buildings are put up. Style and harmony within an area are not settled by the development plan unless the local authority is itself doing the building.

In other words, the prospect of a beautiful city where the developers are private persons turns first on their individual choice of architects and secondly on their willingness to refer their plans by areas for co-ordination by some body looking at the layout as a whole.

How should one choose an architect ? The essential thing is to know what kind of building one wants. I am sure everyone here wants the new buildings in the City to suggest to the world at large that London is not living in the past but has something vigorous, constructive and beautiful to say about her future. You will not get such buildings if you ask for repetitions of pre-war commercial architecture.

Every architect employed in the rebuilding of the City has a duty, not to sink his individuality in a hard and fast plan, no one asks that of an artist, but to give and take in a generous spirit and to produce with his neighbours enough of a harmony—in horizontals, skylines and materials—to create a noble effect in the area in which he is working.

Now is this asking too much of building-owners and architects ? I am sure it is not. It follows, therefore, that some procedure should be worked out so that designs can be looked at by areas. I know that the Corporation has its planning and improvements committee and its planning officers, who have had a most difficult job. I do, however, ask you to consider what is threatened and whether the existing machinery is adequate to avoid disaster.

If it is said that reference to a co-ordinating body would delay actual building, my answer is that it saves time and money to discuss plans early rather than wait till public opinion is roused and then have to wrangle in front of every self-appointed critic. We do not want a whole series of arguments such as we have had about Bucklersbury House. It is essential that the separate plans should be considered together and in good time, and since you now know that the licences are definitely coming, the sooner this work of co-ordination begins the better.

THE PUBLIC INTEREST

To sum up my appeal to the developers of the City :

You have argued that licences should be granted to you at an exceptionally high rate ; the Government accepts your argument ; the licences are being given ; by so doing we are setting in motion an enterprise that is much more than strictly commercial ; if it will help I will consider giving licences by areas where plans have already been co-ordinated ; we owe it to our country and the Commonwealth to rebuild to a standard worthy of the new age ; strong and combined action is therefore called for. Late though the hour is I am confident you recognise the public interest at stake and under the leadership of your Lord Mayor will build for the City and yourselves a lasting memorial.

"ECONOMY IN BUILDING"

Mr. H. F. Broughton's Address at the Royal Institute of British Architects

THE following paper on "Economy in Building" was given by MR. H. F. BROUGHTON, of the Building Research Station, DSIR, at Tuesday's meeting of the Royal Institute of British Architects, held at 66, Portland-place, London, W1. The paper was presented by permission of the Director of Building Research, and is Crown copyright reserved. Mr. Broughton said: According to the dictionary the meaning of the word "economy" is the "judicious expenditure of money," or the "careful management of labour, time and money," and this is the keynote of my talk. Economy in building does not necessarily mean austerity. True economy is the provision, at the lowest possible cost, of accommodation and services which will allow the building to fulfil its function adequately over a predetermined period with the minimum of maintenance. To-day the cost of building is high and we are often told that the industry runs the risk of pricing itself out of business. It is obviously, therefore, the prime duty of all those concerned with design, construction and research to reduce costs, and this can be done without endangering the strength and stability of the structure, without lowering the æsthetic quality of the design and without reducing the comfort of the finished product.

The search for possible savings should start from the early planning stage; from the initial conception of the project, whether it be a power station, a factory, a block of flats or a housing development. Actually it should start earlier, even with the building owner. A "cheap site," a site purchased without a real knowledge of actual requirements, can result in a costly final product. I will not, however, extend our range as we already have a wide enough field to cover.

Assuming, therefore, the normal circumstances: the building owner already has the site and he requires a building or buildings to serve a specific function. Within these conditions the architect has, to all intents and purposes, a free hand. It is at this stage that the search for where to economise must begin. I use the word "search" with a purpose. A close investigation at this initial stage, involving as it should an examination and cost comparison of all reasonable alternatives, will pay handsome dividends not only in money but in building time.

DESIGN

We are prone to blame the contractor for high cost, for poor organisation, for delayed completions, but this is not by any means the whole story. Whilst obviously good planning—functional planning and due regard to æsthetics—are the basic functions of the architect, consideration for the builder's problems in implementing the design and carrying out the work will operate as an incentive, encourage good organisation and speedier work and, therefore, result in lower costs. There are some of us who think that the architect should not only specify the form of construction and the materials but also play a more direct part in determining the methods to be used. The opponents of this idea say the builder knows what is the cheapest method—leave it to him. This may of course be quite true where the work is of a traditional or conventional form. Where an architect or his consulting engineer uses a new or non-conventional form of construction he will have considered ways and means of constructing it, the organisation of the construction, and the type of plant, mechanical or otherwise, which could be most efficiently used. In fact, the design of his structure may well have been influenced by the particular method of building. It is obvious, therefore, that the method of construction which the designer has in mind should, at the very least, be considered by the contractor who eventually carries out the work.

The ideal method, of course, would be to bring the contractor in at the design stage, but under our present methods of competitive tendering this is not normally possible. As you know the London County Council are experimenting with a design team of which a nominated contractor is a member from the very earliest planning stage. The purpose of the experiment is to find the cheapest and speediest method of building multi-storey flats. Every aspect of construction, of equipment, of services and of finishings is being considered in detail and each member of the team will bring his expert knowledge to bear on every problem so that the result should be the most efficient and economic building that it is possible to design and construct.

The team consists of the architect, the engineer, the contractor, the quantity surveyor, the cost estimator and research workers. Now the services of all these people, with the exception of the contractor, are available in some form to any designer—to any architect—and much expert advice is already available to him. The unusual feature of this project is the bringing together of all concerned as a design team from the beginning. We look forward, therefore, to the result of the London County Council experiment with interest as it may well establish the method by which the contractor can best be brought into the earliest stages of a project.

So much for this particular experiment; let us return to what the architect can do under present conditions to create and encourage economy. Let us look for a moment at the work of the Ministry of Education development group. There is little doubt that this group has done much to develop economy in the design and construction of school buildings. One important method of achieving this is by "Cost Study" as set out in Building Bulletin No. 4. This study divides itself into two parts. First, *cost analysis*, which aims at examining the cost of schools already planned and built and for which priced bills of quantities are available and second, *cost planning*, which uses the knowledge gained by cost analysis to control the design of future schools.

Every architect can do what this group has done. Not in such a wide field, perhaps, but within his own field. He can have available cost data of the work he has done, as a basis for the comparison of the costs of different forms of construction, of different types of equipment and services and different qualities of finishes and use the knowledge so gained in his future planning.

One more word on the Ministry of Education Bulletin. On pages 12 and 13 there is an appendix in which the effect of plan shape on cost is discussed. It is concerned with the extent of external wall area and its cost in relation to the floor area which the walls enclose (Fig. 1). Both

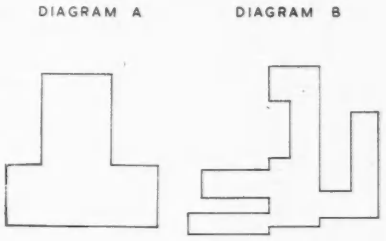
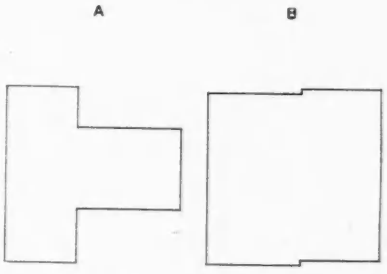


Fig. 1.

plan areas are 10,000 sq. ft., but the area of enclosing walls on Plan A is 11,000 sq. ft. while that of Plan B is 12,000 sq. ft.; a saving of 1,000 ft. of walling. On a straight price difference we could expect a saving of say £350 to £400, but there are other factors which affect cost—look at the number of external and internal angles on Plan B and compare them with those on Plan A. Any contractor will tell you that angles and breaks in walling are costly. You may well say that every architect is aware of and acts upon such a first principle of economic design, but there are innumerable examples where this is not so. Recently, I had occasion to examine two plans for blocks of multi-storey flats. One plan (Fig. 2A) had three flats per floor and the other (Fig. 2B) had four



Figs. 2A *and* 2B.

flats per floor. The floor areas of all flats were approximately the same, and the accommodation was similar. But the one plan had 268 sq. yd. of external walling to

encompass three flats while, in the other, four flats required only 240 sq. yd. of external walling. The relative area of walling per flat was—Plan A—89 sq. yd.—Plan B—60 sq. yd., and the saving in money was approximately £66 per flat or over £1,000 per block.

THE ARCHITECT AND THE BUILDING PROGRAMME

I suggested earlier that architects might well consider the advantages of taking a direct interest in the planning of the work. For instance, they might call, under the terms of the contract, for a complete programme of all operations and stages of the work. This is not a new idea, time always used to be the essence of any contract. The architect should award a contract not only on the basis of price but also on the basis of completion time. It was a contractual obligation with some Ministries during the war for the successful tenderer to submit a detailed programme of the work to show how he proposed to implement the time factor which he had stated in his tender and upon which he had been awarded the contract. This was a wonderful incentive to planning, and it brought the architect and the contractor much closer together. They became a team. A detailed programme, prepared by the contractor, discussed jointly by him and the architect, possibly amended to suit the requirements of both, became in most instances a vital document. The contractor saw that his efficiency or lack of it could be actually measured and not guessed at, and the architect immediately realised that he would have to make changes, or specify alternative materials, to avoid the responsibility of keeping the contractor waiting. It is worth trying, and I am certain that most contractors would welcome the idea. It is, however, important that the programme is a real one and not just a mere pictorial timetable. Against each operation must be set not only the time factor for each operation but also the number and types of operative, the quantities and types of materials, and the static and mechanical plant required to implement the time factor. The mere act of planning in such detail (and it is quite simple) emphasises the need to phase operations accurately one with another. It forces the careful planning of material placing, and it also assists in establishing rational bonus targets.

Fig. 3 provides a typical example of a programme for a small housing project. It is, of course, very often argued that it is not worth while spending time on formulating a programme when it is "certain to break down during the first week." Of course, a programme may break down—not necessarily the first week—but if

(*Continued on page* 181.)

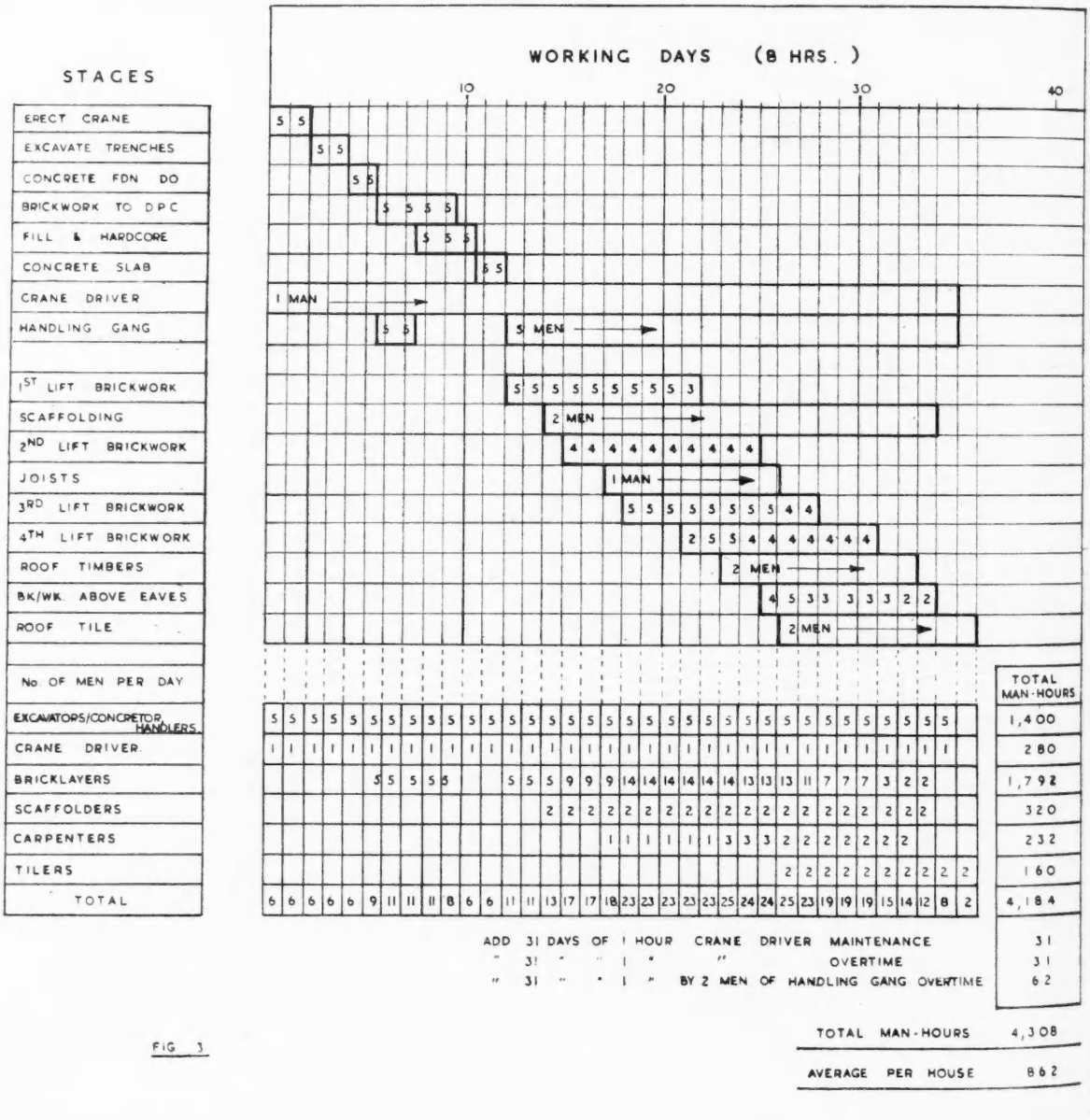
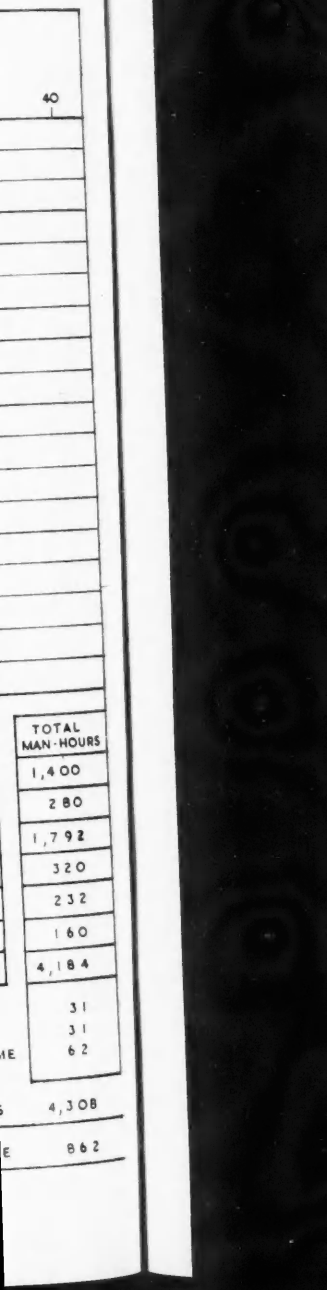


FIG. 3

rial time-
must be
ach opera-
types of
es of mate-
nical plant
me factor.
such detail
nasises the
rately one
reful plan-
also assists
argets.

ample of a
ng project.
gued that it
ime on for-
is " certain
week." Of
eak down—
eek—but if
1.)



e-
be
ra-
of
re-
ant
or.
ail
the
one
an-
sts

f a
ect.
it
or-
ain
Of
if

s

Reception counter as seen from entrance doors. Below: General manager's office.

AIRLINES OFFICES AT NEW BOND STREET, W1

Architect KENNETH DOD, MInst.RA

Builders R & F. DAW, LTD.

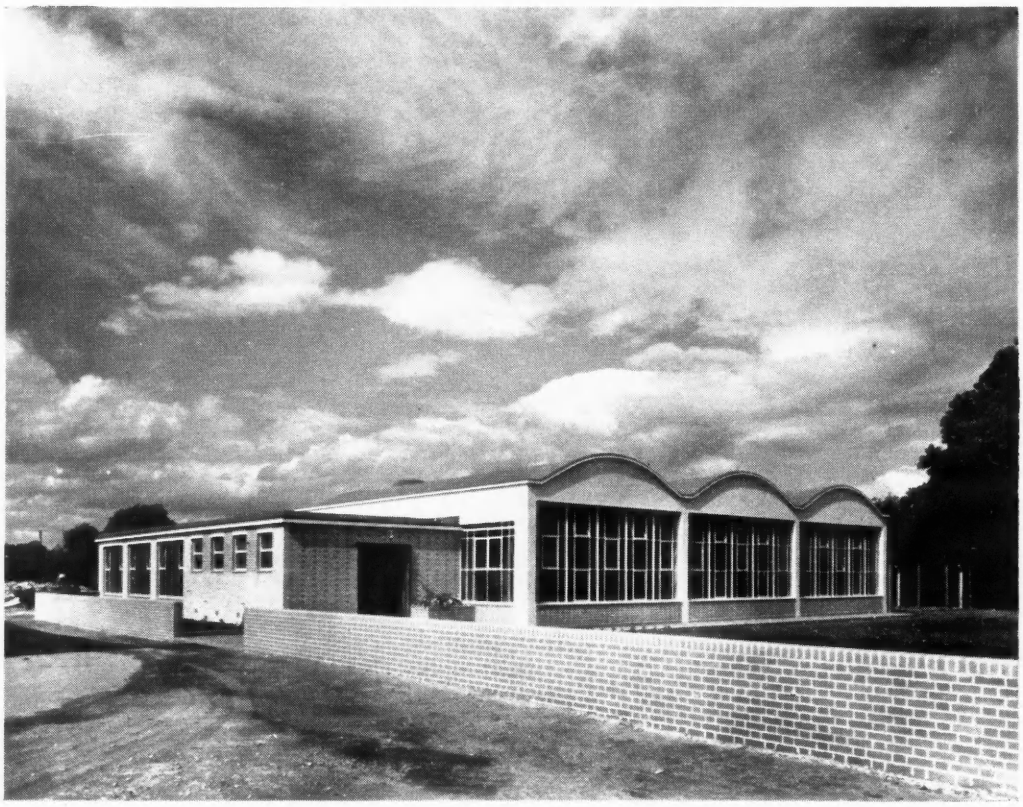
THIS scheme provides offices for the district manager and his administrative staff of Trans-Canada Airlines. The object was to create an atmosphere congenial to easy working and business relationships, and the utmost economy in expenditure was required. The floor space taken by the company was on the first floor, and little direct contact with the public was envisaged. The existing floor space was an irregular triangle with two sides fronting on the main thoroughfares, Conduit-street and New Bond-street.

The permanent walling is built in 2-in. hand-made facing bricks, with a chequer pattern worked into the bond, thus giving a strong light and shade contrast.

The temporary partitions are in the form of an open square grid from floor to ceiling. The panels are filled with ribbed glass or screen printed panels. Partitions between the offices are filled with decorative panels to the full height; partitions fronting the general office area are filled with glass, but are open at the top.

The use of fair face brickwork provides a contrast in texture with the polished wood screens, and points the strong colour and pattern of the panelled screens.

The ceiling is covered with acoustic tiles, laid in a chequer pattern. The tiles are painted white against a scarlet background. Strong positive colours have been used, partly to offset the drabness of London and also to provide a background which, while variable in treatment, would be interesting, restful, and yet a spur to sound business relationships. The joinery was carried out by Osters and Fleming.



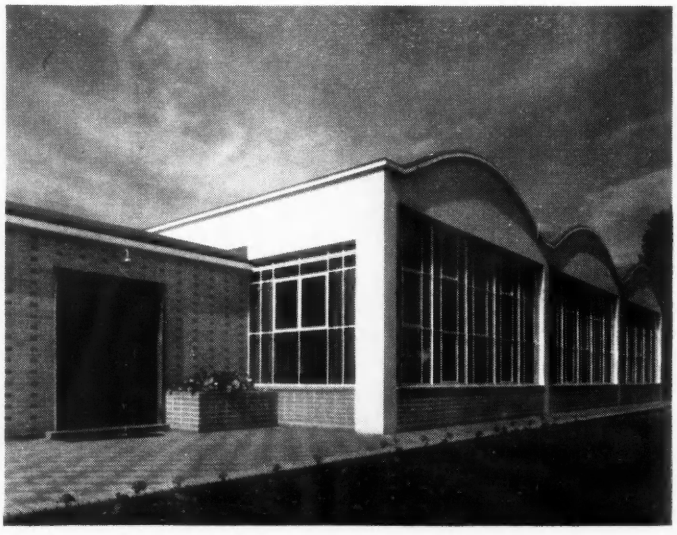
CANTEEN AT COWLEY LANE, UXBRIDGE

Architect
FRANK SCARLETT, BA, FRIBA

Consultant Engineers
L. G. MOUCHEL & PARTNERS

Quantity Surveyors
HORACE W. LANGDON & EVERY

Builders
W. S. TRY, LTD.



Detail of main entrance front.

CANTEEN AT COWLEY LANE, UXBRIDGE

THIS building is to provide meals for a works and management staff of 300 at a time, a club room, with bar, for darts and billiards, and a place for dances and theatricals.

The central dining-room is constructed with a triple shell prestressed concrete barrel vaulted roof. Its design was largely conditioned by the steel shortage and achieved the cover of over 3,000 sq. ft. of free floor space with a minimum quantity of reinforcing steel.

The club room and kitchens have walls of load-bearing brickwork with reinforced-concrete lintol and are roofed with precast prestressed concrete units.

A special feature of the design is to show the possibilities of different coloured bricks to give variety of colour and texture. White, lilac and purple bricks bonded in varying patterns have been used on the elevations and contrast with the smooth white rendering of the concrete. Inside, golden yellow coloured bricks laid in basket pattern tone with the buff terrazzo floor.

The windows are standard factory glazing units with unnecessary glazing bars omitted.

The ceilings and internal concrete work are sprayed with vermiculite coloured palest blue. Elsewhere, the internal colour scheme is vermilion door frames, cobalt blue doors and red and white curtains.

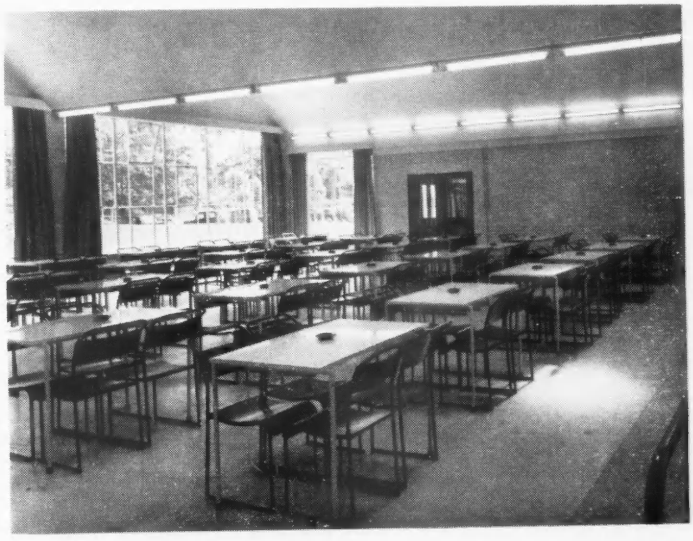
The bar is carried out in Formica with aluminium beading.

There is fluorescent lighting in strips to emphasise the structural lines of the building.

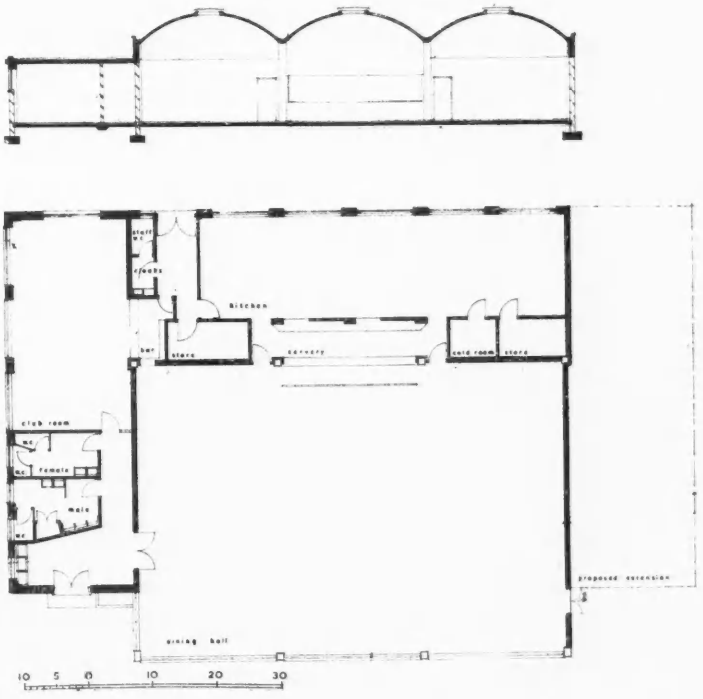
The plans provide for the extension of the building by another wing to the east for a directors' dining-room. Following is a list of the sub-contractors and suppliers :—

Sub-contractors—Precast, prestressed concrete, roof slabs, Concrete, Ltd. ; built-up felt roofing and asphalte roofing, Ragusa Asphalte and Paving Co., Ltd. ; terrazzo flooring, Standard Pavements Co., Ltd. ; gas installation, North Thames Gas Board ; vermiculite plastering, Meta Mica, Ltd. ; aluminium counter shutters, Shutter Contractors ; curtains, Peter Jones.

Suppliers—Flat roof insulation " Asbestolux " board, Cape Asbestos Co., Ltd. ; metal windows and concrete roof light and glass dome lights, Haywards, Ltd. ; w.c. partitions, " Plymax," Venesta, Ltd. ; sanitary fittings and ironmongery, W. N. Froy and Sons, Ltd. ; electric light fittings, Thorn Electrical Industries, Ltd.



Interior view of the canteen.



Plan and cross section.

King's-road elevation.

DUKE OF YORK'S HEADQUARTERS, KING'S ROAD, CHELSEA

Architect
HAROLD DICKSEE, FRIBA

Quantity Surveyors
STANLEY GRIFFITH & PARTNERS

Builders
HOLLIDAY & GREENWOOD, LTD.

THIS building, which was formally opened by HRH The Duke of Gloucester on October 21 last, provides accommodation for the 56th Armoured Divisional Royal Army Service Corps (TA). In addition to the accommodation for training, offices, stores and recreation as laid down in the War Office schedule of accommodation, provision had to be made for workshops and space for garaging as many vehicles as could be accommodated on the site.

The site, which is very limited for the accommodation which had to be provided, is situated at the north-east corner of the grounds of the Duke of York's Headquarters and fronts on to the King's-road, Chelsea. It was formerly occupied by a large single-storey garage building which was originally built as a riding school. This old building was of very substantial construction, and the architect was instructed to consider the possibility of incorporating as much as possible of the old building in the new structure. Although this suggestion did not turn out to be a practical proposition a limited amount of the original brickwork has been incorporated, and the old steel roof trusses and roof timbers were salvaged and reused in the construction of the drill hall roof.

Owing to the limitations of the site, the whole of the ground floor had to be utilised for the garage, workshops, the technical stores associated therewith and for the boiler room and fuel store, and all other accommodation had to be provided on the upper floors.

The building is constructed with load-bearing external walls, with the introduction of stanchions where heavy point loads occur, and a structural steel framework taking practically all the loads within the perimeter of the external walls.

The floors and staircases and flat roofs are of cast *in situ* solid reinforced concrete. The roof over the second floor is of timber construction. To reduce the risk of the spread of fire from the ground floor to the upper floors there is no direct communication between the ground and upper floors.

The planning of the upper floor in relation to the ground-floor and in particular the layout of the structural steelwork presented some difficulty, because the direct and economical layout for the structural steelwork for the upper floor would, if carried down to ground level, have resulted in stanchions in the garage and workshop in inconvenient places.

This difficulty was overcome by:—

(*a*) carrying the first-floor on two lines of stanchions at 20 ft. 6 in. centres, one under the north wall of the drill hall and the other on the line of the wall dividing the garage from the workshop, and (*b*) supporting the south ends of the trusses of the drill hall roof, at high level, on two 24 in. by 7½ in. rolled steel joists, each having a span of 41 ft.; these girders are carried on three stanchions, one in the wall at the east end of the workshop, one in the centre of the workshop, and the other at the corner of the partition separating the workshop from the technical stores.

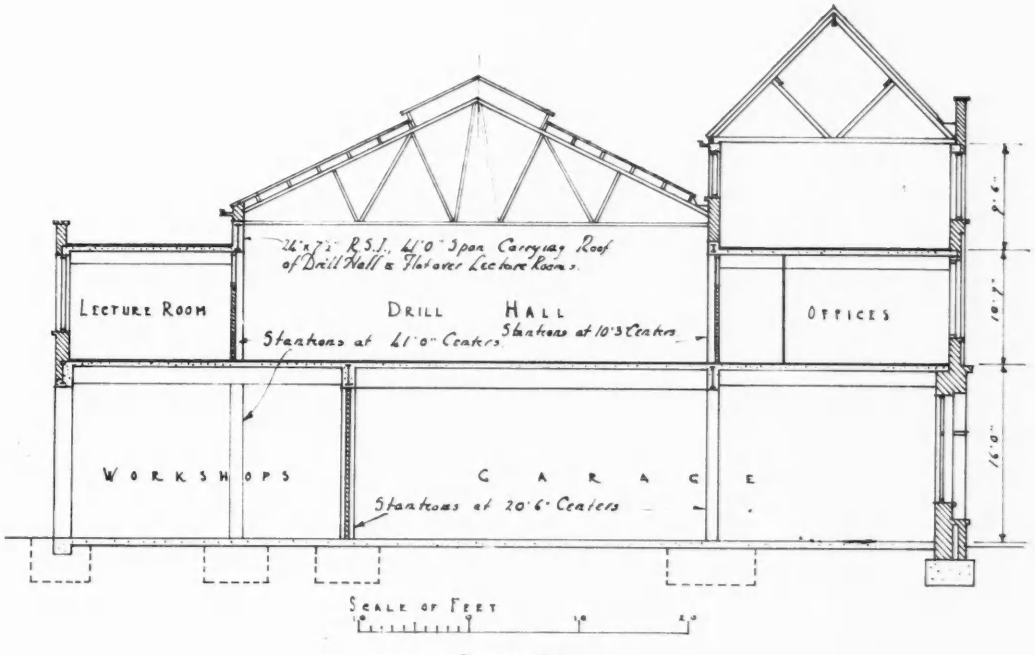
The old buildings which were formerly the Duke of York's School were built in 1801 by John Sanders in the simple and dignified classic style typical of that period. The main elevation faces west, and owing to

West elevation.

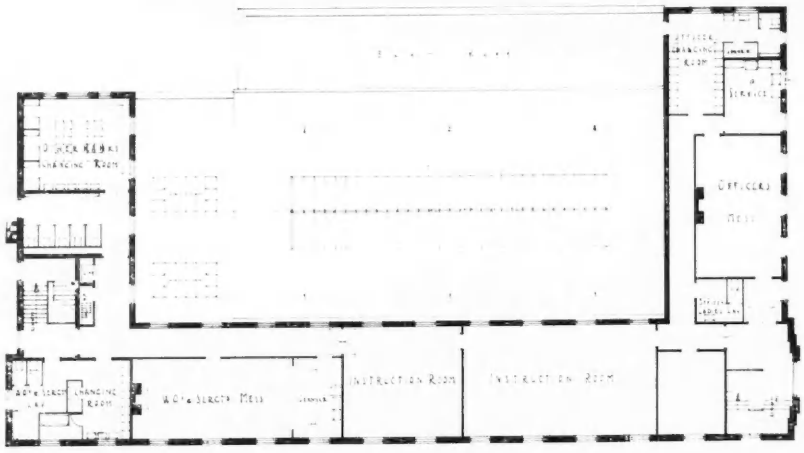
screen walls and trees can hardly be seen from the King's-road, whereas the flank elevation of the old buildings presented to this important highway a somewhat featureless and unattractive aspect of the buildings. The erection of the new building has afforded an opportunity of doing away with this unattractive aspect of the old buildings which detracted in no small measure from their dignity.

The elevations have been designed to harmonise with the original buildings; the walls are faced with golden-brown hand-made sand-faced bricks, with a darker brick up to the plinth line; these are laid in a bond of two stretchers to one header, and are pointed with a cream coloured joint.

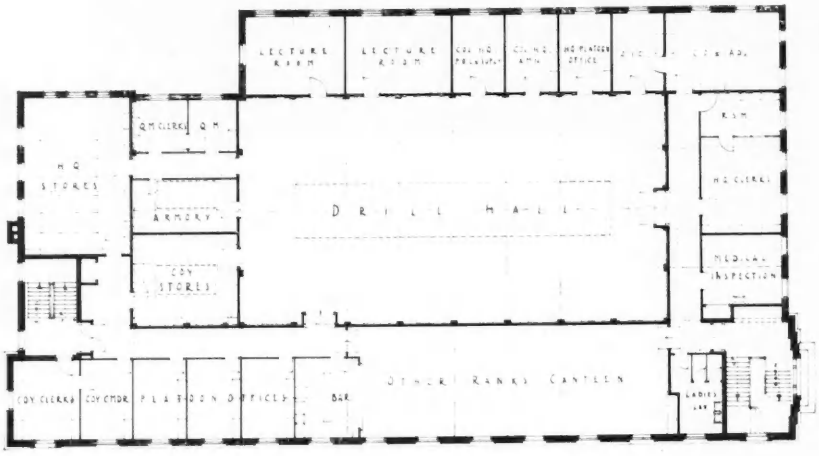
The internal finishings are all simple in character. In the drill hall the floor is of beechwood block floor-



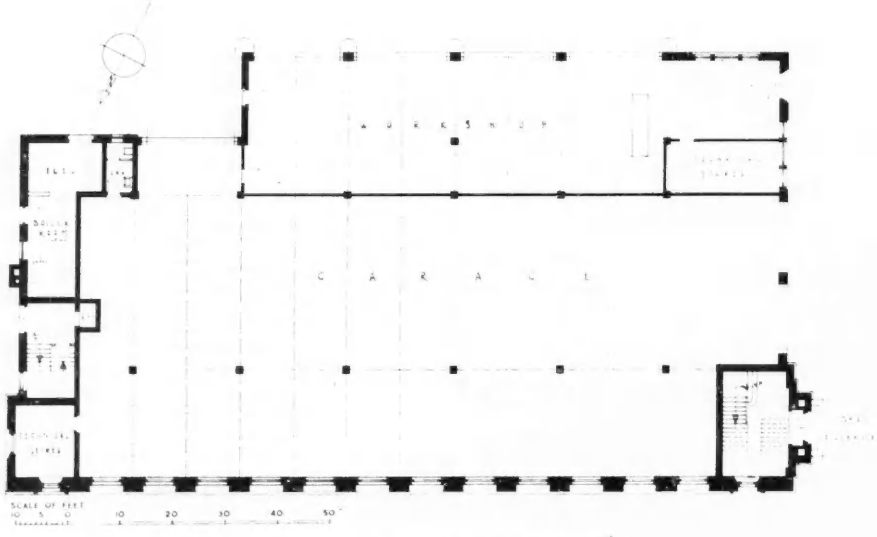
Cross section.



Second-floor plan.



First-floor plan.



Ground-floor plan.

View of the south elevation.

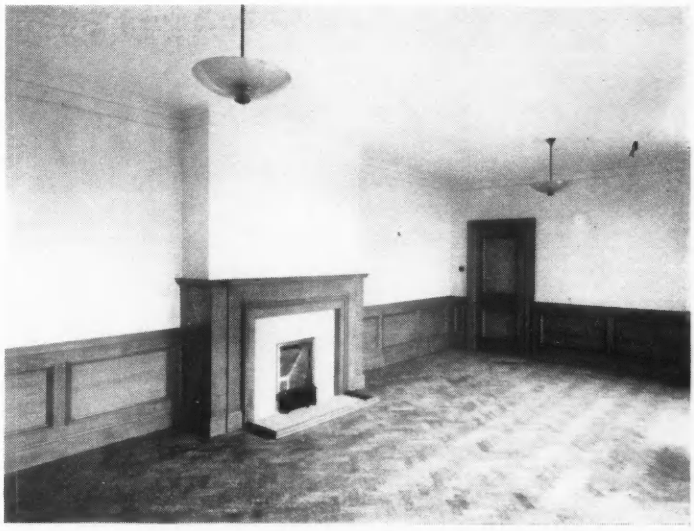
ing. The walls are of fair-faced common brick and the stanchion and beam casings are rendered in cement and sand finished with a wood float. The roof is lined on the soffit of the wood purlin with plasterboard with the joints covered with Anaglypta strips. The dado and woodwork are painted ; the filling to the walls and the roof lining are distempered and the roof trusses are painted to match the colour of the roof lining.

In the corridors, offices, instruction rooms, W.O's. and sergeants' mess and canteen, the floors are of thermoplastic tiles and the walls are plastered with painted dados and distempered fillings and ceilings. The finishings in the changing rooms and lavatories are similar but with granolithic floors.

The garages, workshops and stores on both floors are finished with fair faced brickwork, distempered, and granolithic floor.

The general colour scheme in the drill hall, corridors, offices and instructional rooms, etc., is a combination of pale greens and soft greys for woodwork and dados, and a warm very pale beige for the distempered fillings to the walls. In the W.O's. and sergeants' mess and in the canteen the general colour scheme is in different tones of beige both for paint and distemper.

The building is heated with a low-pressure hot-water system with pump acceleration and there is a separate boiler for the domestic hot-water supply.



Officers' mess. The dado panelling, fireplace and door are in oak and the floor is beechwood blocks.

Drill hall, from north-west corner.

Following is a list of sub-contractors :

Structural steelwork, Matthew T. Shaw and Co., Ltd. ; reinforcement, British Reinforced Concrete Engineering Co., Ltd. ; masonry, Bath and Portland Stone Firms, Ltd. ; facing bricks, W. H. Collier, Ltd. (of Marks Tey) and S. A. Hunter, Ltd. ; slating, Roberts and Burling ; asphalt and built-up roofing, Ruberoid Co., Ltd., Limmer and Trinidad Lake Asphalt Co., Ltd. ; floor coverings, Armstrong Cork Co., Ltd., National Flooring Co., Ltd. ; kitchen fittings, John Sadd and Sons, Ltd. ; ironmongery, James Gibbons, Ltd. ; sash balances, Unique Balance Co., Ltd. ; sliding door gear, P. C. Henderson, Ltd. ; metal windows, Crittall Manufacturing Co., Ltd.

Steel shutters, Haskins; roof glazing and lantern lights, British Challenge Glazing Co., Ltd. ; steel lockers and shelving, G. A. Harvey and Co. (London), Ltd. ; lift, Aldous and Campbell, Ltd. ; fireplace interiors and tiled surrounds, Bratt Colbran, Ltd. ; roof lights, Greenwoods and Airvac Ventilating Co., Ltd. ; cast concrete windows, J. A. King and Co., Ltd. ; wrought-iron balustrades, Broadmead Products, Ltd. ; sanitary fittings, W. N. Froy and Sons, Ltd. ; heating and hot water supply, C. B. Jackson and Co., Ltd. ; electrical installation, Electric Installation, Ltd. ; gas installation, North Thames Gas Board ; glazing, Faulkner, Green and Co., Ltd. ; paints, Raines and Porter, Ltd.

Drill hall, from south-east corner.

DUKE OF YORK'S HEADQUARTERS, KING'S ROAD, CHELSEA

ts,
nd
ft,
ed
ds
ys,
es,
oy
B.
ric
as
ts,

"ECO

properly
contract
on to his
sible tim
honour w
tect has
progress
he visits
that mat
impossib
program
time and
with this
of the su
hensive
cently.
on all th
of the w
experienc

Before
two more
which h
speed of
concerne
It is almo
below da
provision
why not
site rath
works to
details s
which ar
On level
not a se
substanti
sites are
spent on
starts wil
money ar
building
would ce
under-bu
merely a
of cours
There is
much, in
terraces,
The site
Floor leve
taking in
amount
hardcore,
ways, the
levels, th
retaining
and, last
and storm
decision
involve o
more or
expenditu
all propo
amount in
Every pair
its founda
any doubt
native ske
and roug
I know th
this practi
faction fro
the major
when they

Here, th
moting ec
responsibi

"ECONOMY IN BUILDING"

(*Continued from page* 172.)

properly detailed you will find that the contractor will do his utmost to get back on to his programme in the shortest possible time. It will become a point of honour with him, particularly if the architect has a copy of the programme and is progressing the work against it every time he visits the job. It is often asserted, too, that material shortages make programming impossible and that the preparation of the programme itself requires considerable time and skill. I do not myself agree with this view, and I have had experience of the successful application of a comprehensive programme on several jobs recently. The influence of such a target on all those concerned with the control of the work is remarkable and has to be experienced to be believed.

Before I leave the design stage, there are two more matters in the architect's field in which he can influence economy and speed of building. The first is mainly concerned with small house-building. It is almost common practice for all work below damp-proof course to be treated as provisional. This is understandable, but why not design foundations to suit the site rather than leave it to the clerk of works to settle floor levels and the other details such as steps, path levels, etc., which are consequent upon his decision. On level sites the problem is, perhaps, not a serious one but unfortunately a substantial proportion of our housing sites are on falling ground and the time spent on proper detailing before the work starts will be amply repaid in a saving of money and time. With any other type of building except small housing the architect would certainly provide full details for the under-building. On a falling site it is not merely a question of deciding the number of courses below damp course level. There is much more to it than that. So much, in fact, that single houses, pairs or terraces, cannot be considered in isolation. The site must be considered as a whole. Floor levels should not be decided without taking into account their effect on the amount of cut and fill, the quantity of hardcore, the number of steps to doorways, the making up of finished ground levels, the need for embankments, for retaining walls, the drainage of pavings and, last but not least, the effect on soil and storm water drain levels. An *ad hoc* decision on floor levels which appears to involve only a few courses of brickwork more or less can result in additional expenditure on these other items, out of all proportion to the relatively small amount involved in the cost of brickwork. Every pair or terrace of houses should have its foundations detailed and where there is any doubt on the score of economy alternative sketch designs should be prepared and rough comparative bills taken off. I know that some architects already follow this practice and get a great deal of satisfaction from doing so, but many, perhaps the majority of architects, do not do so when they are dealing with housing.

Here, then, is an immediate way of promoting economy. We cannot place the responsibility on the already overworked clerk of works—too much money is involved.

Another matter that I wish to touch on is the question of nominated sub-contractors. In certain classes of work and with certain types of equipment and services it is, of course, important for the architect to nominate a sub-contractor. In housing, however, I think the recommendation of the Bailey Committee (Quicker Completion of House Interiors) on this question is pertinent, namely, that the nomination of such sub-contractors should be avoided as much as possible. House-builders on the whole prefer their own sub-contractors. The relationship between a nominated sub-contractor and a main contractor is not in general as close or effective as when the sub-contractor looks directly to the main contractor for instructions as well as payment. Furthermore, the close integration and phasing of the work carried out by sub-contractors with the main contractor's own work can be made more difficult to achieve.

I have suggested some ways in which the architect can contribute to economy in building. Summarised briefly, they mean that the designer should be fully cost conscious, go out of his way to appreciate all the problems of production and develop a partnership with the builder which is real rather than one which is formal. In other words, and as far as the conditions of building allow, marry design to production as in all other industries, so that the final design may be an incentive to efficient organisation on the part of the builder.

THE CONTRACTOR

Given an economic design, how should the contractor complement it with economic production? He must organise and plan. You will say—obviously he must organise and plan. But does he? How many builders plan a contract in the finest detail? Some of our more efficient contractors do plan in this way; they employ sufficient qualified staff to do this work, but this is by no means always the case. I was on a site the other day—a housing contract of over 80 houses involving £100,000 and the general foreman was working on the tools. The finest army in the world will lose battles and will lose men without good staff work. The days are behind us when a job will run itself. In a survey of productivity in house-building—the second report of which was recently published—man-hours per house varied from 1,565 to 4,645, and the reasons for this wide variation were not size of house or specification. They were not the size of the contract or its geographical location. These factors were responsible for small differences only. The greatest single factor responsible for this wide range of production was the quality and efficiency of organisation—mainly of site organisation.

Good site organisation—efficient site organisation—is a phrase that is now almost commonplace. What does it imply? It means, as has already been indicated, planning the whole of the work in the greatest detail before the job starts. It involves the provision of adequate staff to see that labour, materials and plant are available at the right times to ensure adherence to the plan. And lastly, no site organisation can be considered "good" which does not include some method of cost control.

How does the builder achieve good site organisation? For every job, small or large, he should prepare a detailed programme before the work starts. This is the programme that the architect should see and approve. It will make clear to both builder and architect at this very early stage every facet of the job and the particular problems that are likely to arise. It will facilitate the accurate phasing of sequential operations, pinpoint the key operations, establish the size of gangs and ensure the reduction of unproductive time to a minimum. It will emphasise material delivery dates. It will indicate to sub-contractors, well in advance, when their services will be required and, overall, it will operate as an incentive to both staff and operatives throughout the period of the contract.

The functions of the site staff are the same on every job, irrespective of size. First, the delivery of materials at the right time; the correct placing of these materials; their protection and the avoidance of waste. Second, the recruitment, organisation and supervision of labour, the recording of production and the payment of wages. Third, the provision of appropriate and sufficient plant and tools to do the work economically. On a small job, the foreman, or even a charge hand if the job is small enough, will fulfil all these functions himself. On a large job the responsibility for the whole is still vested in one man, the chief site executive; he may be agent or general foreman, but it will be necessary for him to delegate responsibility to juniors, according to the size of the contract, the speed of the work and the number of men employed. All aspects of the work must, however, be covered. The productivity of the labour employed and, therefore, the economy of the whole job is directly related to the efficiency of the site staff.

The productivity of the labour employed—this, surely, from the builder's point of view, is the whole crux of economy in building. How, then, does the builder obtain and maintain a high level of production from his operatives? Obviously he should provide adequate and efficient supervision, since this helps to ensure that his programme is implemented, waste avoided, building time saved—the quality of the work maintained. But this supervision will be much more effective and economic if the right types of incentive are provided for the operatives, labour relations are good and adequate welfare facilities are provided.

In the second report on productivity in house-building, NBS Special Report No. 21, it was shown that productivity was increased by the use of well-designed monetary incentive schemes in which rational targets are established for all operations.

It was found that in those contracts and trades where target bonus schemes had been applied in which the bonus

paid was directly related to output, the man-hours for similar work were on the average 15 per cent. lower than where no such scheme operated. It was clear, however, that the majority of the schemes had weaknesses and there is little doubt that productivity would have been appreciably higher if they had been more thoroughly planned. In my opinion the basis of an efficient incentive scheme should be :

(*a*) The scheme should be as comprehensive as possible and targets be applied to all operations.

(*b*) The target levels should be agreed between the operatives and employer before the commencement of the work. These targets should be properly balanced between trades to ensure equal opportunities for earning bonus to all operatives.

(*c*) The operations to which the agreed targets relate should be fully understood by all operatives and be easily identifiable so that progress at any given time can be visually assessed without resort to detailed measurement.

(*d*) Bonus should be paid *as soon as possible* after the execution of the work in which it has been earned, and providing rational target levels have been set the operatives should be paid the greater proportion of the cash saving.

MECHANICAL PLANT

The overall efficiency of a site can be dependent also on the use made of mechanical plant, but this is a subject which can only be dealt with fully in a separate talk. The potentialities of improving organisation and increasing production are enormous. The chief reason is, of course, that the use of a machine provides an organisational framework within which the operations can be more accurately pre-planned or programmed : the ability to adhere to a programme is greatly improved where mechanical plant is used. This is particularly the case where the machine does the whole of the handling operation ; that is, from stack or mixing point to placing point as, for example, with a crane which conveys both horizontally and vertically. Where a handling operation is only partly mechanised, that is, where the machine conveys only vertically and not horizontally, then the machine ceases to exercise effective control. A good example of this is the mechanical hoist which requires materials to be handled manually to its base and again manually distributed at scaffold level. In this case organisation of the work becomes more complex and the time cycle much more difficult to maintain.

Another good example of machines controlling production is in the mixing and placing of concrete at ground level. Where a power barrow or mobile skip is used to carry the complete batch from mixer to placing point the machines can be synchronised to work within a predetermined time cycle and thereby control the speed of the operation. A good combination for jobs of a moderate size is a 10/7 mixer working in conjunction with a power barrow with a 7-cu. ft. skip. With a gang of seven men and a three-minute time cycle, this combination mixes and places at the rate of $\frac{3}{4}$ cu. yd. per man-hour compared with, shall we say, $\frac{1}{3}$-cu. yd. if transported manually.

The aim, therefore, in purchasing and, for that matter, in designing, mechanical handling equipment should be to deal with the complete operation, which means either a machine which will both carry and lift, or two machines which are of equal capacity and can be so synchronised in operation that they do, in fact, act as a single machine. The machine or machines then serve a dual function, they not only handle the materials and thereby lighten the work of the operatives, they also create a machine time cycle within which any ancillary manual operations are designed to take their part.

Before leaving the subject of plant I would like to refer briefly to what I may call static plant. I mean, of course, scaffolding, formwork, ladders, barrows and tools in general. I am afraid that on far too many jobs there is a shortage. The operatives have to make do, they have to improvise. On three jobs with which I have been concerned recently, progress has been delayed by shortage of plant—mainly scaffolding. Sometimes this is unavoidable, but there is a tendency, in fact, there always has been a tendency, to try to carry out four contracts simultaneously with plant which is only really adequate for three. To-day this is particularly misguided. Labour is too costly to allow it to be hampered by causes which can be avoided. Without good and adequate equipment and tools it is impossible to maintain high production and therefore to achieve economy.

COST CONTROL

Finally, I must mention cost control—probably one of the most important factors in the drive for economy and one which is all too infrequently applied. Cost control is part of good site organisation ; it is a measure of production and to be effective need be concerned primarily only with labour and mechanical plant. It is a current measure of production taken, say, twice a week, which enables the general foremen or agent to compare with his targets, and to take immediate action where necessary by altering his methods, or size of gangs, or deal with any weakness which has been pin-pointed by the figures.

Cost control is not so formidable a task as is often imagined. If, for instance, an efficient and comprehensive bonus scheme is operated, cost control can be incorporated in the scheme. Again, it is not essential to develop costs on all operations, all the time. Every builder will know that when he starts a contract certain operations or sections of the work are likely to be difficult. To start with, production can be measured daily on these items alone. When these operations are working economically and within target, another batch of operations can be dealt with in the same way, and so on until the whole job is running smoothly. Thereafter, spot checks can be taken on various operations to ensure that production is being maintained. As I implied earlier, the method of measuring production can be relatively simple. A schedule of operations for the whole of the work is drawn up, each operation being numbered and very briefly described—the bonus schedule will suffice for this—and against each operation is set a target in man-hours or money calculated from the rates in the bill of quantities. Copies of this schedule are posted in convenient places about the job so that all operatives can refer to, and become familiar with, it. The operatives themselves record on daily time cards instead of weekly time sheets—daily records are much more accurate than weekly. Each operative is handed a card when he clocks on in the morning and returns it, filled in, when he clocks off at the end of the day. Each evening there is in the foreman's office a complete record of the day's production and the time for any operation can be quickly checked against the appropriate target. This is an extremely cheap method of cost control and as you will appreciate it can be elaborated to almost any degree.

CONCLUSION

There are many other aspects of economy, but I have endeavoured in this talk to emphasise those which I consider the most important. The judicious expenditure of the client's money depends on architect and builder. With the architect it means an understanding of method as well as of form and materials, coupled with a full appreciation of cost, and with the builder it means efficient organisation, and particularly site organisation, in all its aspects.

IAAS

Wealden Branch Meeting

THERE WAS an attendance of more than 50 at the Old Ship Hotel, Brighton, on January 13, to hear the chief building inspector of Brighton, Mr. F. Green, and the chief building inspector of Hove, Mr. W. Sharman, who presented a symposium on the new model (building) by-laws.

In his opening remarks, MR. GREEN stressed particularly that in any particular locality the by-laws were not the beginning and end of regulations to ensure good building practice, but that the provisions of local Acts must always be borne in mind, as well as certain sections of old Acts of Parliament which might, for instance, affect building in streets, and finally, of course, the bearing of the Public Health Act of 1936 must always be kept in view. The speaker then touched upon individual items contained within the new Brighton building by-laws, which came into effect on December 31 last.

MR. SHARMAN began by stressing that certain familiar terms of the former series of by-laws had now either disappeared or had been amended as to meaning, whilst a number of new terms were now included in the introduction of part 1 of the by-laws under the heading of "Interpretation," and he strongly advised their careful noting. He, too, then mentioned individual items to be found, this time, within the model by-laws.

A number of questions were then answered in turn by the two speakers.

BUILDING FOR AGRICULTURE

Further Papers at the Architectural Association's Symposium

We give below extracts from the remaining two papers presented at the Architectural Association's recent Symposium on "Building for Agriculture"; the six earlier papers, together with the discussions that followed, were summarised in our columns last week. Limited numbers of copies of the full report of the Symposium (i.e., *the papers and the discussions*) *are available from the AA at* 34-36, *Bedford-square, WC1, price 5s. to members and 10s. 6d. to non-members.*

Economics of Farm Buildings

MR. REX PATERSON, who farms 7,000 acres in Hampshire, gave the paper on the "Economics of Farm Buildings." He said:

Some years ago when a farm I owned was being valued, I pointed out to the valuer that he had placed a higher value on the buildings, for insurance purposes, than on the whole of the land plus buildings. His reply was that that indicated the amount of capital which had been sunk in the land and lost. In all too many cases in agriculture this is true. A fair return for the investment and maintenance of farm buildings would often be greater than the rent which is paid for both the land and buildings. Yet all too often the existing buildings are in poor condition and wasteful of labour. Adding more buildings to save labour and improve amenities will often add another rent which a tenant may be unwilling to pay.

How is such a situation to be remedied? As a rule one of three things happens. Often nothing is done, and many very bad sets of buildings, with muddy, dirty yards, can be seen about the countryside as a result. In other cases, a wealthy man with an income from other sources buys the estate and spends money on rebuilding, either for the pleasure and satisfaction of doing a good job, or to reduce his tax liability, and in the hope that he may recover some of his investment in an improved value. Lastly, to an increasing extent working farmers, either in their capacity as tenants or owner-occupiers, are spending money on buildings specially designed to save labour, or to allow some new venture to be undertaken.

Many substantial buildings erected in bygone days are no longer required. They may have been built to house horses, which have given place to tractors, or to house cattle in ways which require more labour to manage them than can be justified to-day. There are now totally different methods of housing and handling cattle and harvesting crops. Special buildings to receive and process grain or grass for drying are now common where nothing of the kind was used before. For these reasons new buildings are often required even though the existing buildings are still in good repair.

In conclusion, Mr. Paterson said: Farming systems are often unnecessarily complicated in this country compared with what one finds in the Dominions. This leads to excessive building requirements to house the machinery and to cater for a variety of different classes of stock. As both the capital and maintenance requirements of buildings create a heavy charge, farmers should, in their own interest, try to develop systems of farming which require fewer buildings. These should be of the simplest possible design, and no larger than is essential. Well-planned buildings can save their annual cost in reduced labour charges or by higher outputs from the existing labour, and can often be erected by the farmer himself. This is essential if real progress is to be made, and to supplement the investment of surplus capital from outside sources of income.

DISCUSSION

DR. D. R. DENMAN, FRICS, said he wished to make some statements on the general financial principles which he thought governed the investment of capital in farm buildings. He was neither architect nor farmer, but a land economist. He proposed to put forward six simple propositions, all concerned with a fundamental question, which had not been answered that day. "Does it pay?" He was talking of paying in terms of investment. Did it pay a man to realise his gilt-edged securities and transfer the money to farm building investment to make his gilts more secure? So often farm buildings were temporary buildings, and Dr. Denman was of opinion that too little thought in the past had been given to testing whether building investment paid a suitable interest return, and a return sufficient to provide a sinking fund to replace the capital after the temporary building had fallen. It would be interesting to know whether Mr. Paterson had any figures to illustrate that basic principle.

The second principle was derived from another characteristic of farm buildings. Some buildings lasted too long, and could not be adapted to modern requirements. Flexibility was a fundamental principle underlying sound finance. If one were going to put up a permanent building, one must ask "Is it going to be of such a kind that the interest return on the capital invested will be constant?" On marginal farms, sometimes used for dairy farming and sometimes for rearing, flexibility was important, and the answer might be the sort of omnibus liberty halls which were used in Denmark.

The third principle was substitution. He had been asked to look into the problem of implement accommodation; whether it paid better to leave implements out in the open to rot and rust or to invest capital in implement cover, which must pay interest rates and a sinking fund and be constantly maintained. Was it possible to draw up an equation of this kind? His conclusion was that it was not simply a question of substituting one expense or loss for another, of trying to match the cost of maintenance with the cost of depreciation and obsolescence. If an implement was left out in the open, though the cost of cleaning it might be smaller than the interest rate on the building, there might come a day of crisis when that implement was wanted to save a whole crop.

The fourth principle was siting; whether it paid to put a building in this place or in that. He had been very interested in Mr. Leech's remarks from that point of view. Mr. Leech's point was that although in theory a complicated time and motion study might show that if a building were put in a particular place the cowman would have to take only three steps, whereas, if put somewhere else he would have to take four, there was the human factor to be considered and a man working alongside someone else would talk to him and waste time, so that scattered buildings would be more economic in labour costs.

The fifth might be called the Aladdin principle—new buildings for old. Was it really the best economy to bulldoze the old buildings and put up new ones? Not enough study had been given to that.

Coming to the sixth principle; one of the difficult problems facing landlords to-day was that when they were asked by tenants to invest capital in buildings they were confronted with the inescapable uncertainty that they might spend £3,000 on buildings of a certain kind, planned for a certain way of farming, and then the whole economy would shift and what had been a sound building would become redundant, so that capital was lost almost overnight. From the point of view of the landlord that element of uncertainty was a very real one where investment in agricultural buildings was concerned.

He had been interested to read the other day a statement by Sir Harold Bellman, who said to a meeting of insurance people "We have a lot of risk capital to invest." Why should there not be an insurance scheme to insure the capital of landowners against violent fluctuations of the kind in question? It would have to be carefully thought out, and if it was left to voluntary choice the national premium might be too small to take the cover, but if such a scheme were pursued at Government level, for a few pence an acre it might be possible to have a national premium sufficient to safeguard private invested capital.

MR. PATERSON, dealing with the question of whether his buildings paid and whether he had secured his investment, pointed out that he had already explained that he tried to get in touch with his landlords about the buildings, because he realised that the buildings might not have a value for a succeeding tenant. He had said to his landlords, "Have you any comments to make on what I am proposing to do? I do not want you to give your consent unless you wish to do so, because if you do you will be liable to have to take them over at the end of the tenancy." Occasionally a landlord had said that he would be happy to take them over, but in many cases the reply had been, "We should prefer you not to ask us for permission, and then we can deal with the matter as we wish at the end of the tenancy." He had been quite willing to agree, because in all those cases the investment was so low that, if he lost it it would be disappointing but not ruinous. The buildings were so economical in the use of labour that they rapidly paid for themselves.

On the housing of implements, it must be realised that implements differed. An implement, such as a drill or combine harvester, with many intricate parts which could be damaged by exposure to the weather, must be housed, but some of the modern hydraulically lifted implements, if kept painted, did not come to any harm if left outside.

On the question of siting, he had explained how they preferred to go away from existing buildings. That was tied up with the other question, of whether to get rid of old buildings. In most cases it would probably cost more to adapt old buildings than to start afresh on the lines on which he had worked, and he would usually prefer a clear site. An old building may be useful as it is, but when altered it is lost for its former use and the adaptation may have

cost as much as a new building. On the question of cost, he had mentioned a price of £550 for a milking shed. Not much could be done to adapt old buildings; the roof line would probably be wrong, and the floors were at all sorts of levels and would have to be broken down and relaid.

MR. GERHARD ROSENBERG gave a figure relating to the money spent per acre in maintenance of buildings, which over a fairly large sample was between 15s. and 17s.

The Raw Materials of Farm Buildings Design

MR. GERHARD ROSENBERG, ARIBA, AMTPI, AMIBAE, gave a paper on "The Raw Materials of Farm Buildings Design." He said: I shall talk of the raw materials of farm buildings in the way in which Gibberd talks of the raw materials of the town—in his new book on "Town Design." I shall keep the visual aspect in mind and try to be practical in its application, but I cannot hope to command Gibberd's simplicity and authority.

The raw materials of which I talk are firstly the building materials. In most cases they are the most unsympathetic ones, architecturally, and the cheapest ones available. They are:

LBC flettons and Marston Valley bricks, perhaps rising to Colefords or third local stocks.
Concrete blocks.
Steel or precast concrete posts and trusses, sometimes of the portal type, at best tubular, but more often angle framed lattice trusses of a few standard spans and pitches.
Prestressed concrete purlins, steel and timber purlins, reinforced concrete purlins.
Corrugated asbestos cement and all its accessories.
Corrugated steel sheeting, protected in various ways, and with a limited variety of colours and sections.
Perspex, Corroglaze or any of the transparent corrugated sheets in roofs and walls.
Standard agricultural hopper-type windows in steel and concrete.
Patent glazing.
Timber, creosoted and painted.
Concrete surfaces, renderings and washes.
Tubular railings.
Glazed stoneware, and glass.

This is about the range. Not a very wide one, but our forefathers made a very good job of a poorer one than that.

Raw materials in a wider sense, that make up the visual scene, are both annual and perennial: he would be a poor farm architect who left the annuals out of his mind picture. There are ricks, clamps, silos, large-scale machinery for crop handling, drying and storage—you have heard a lot about them during these meetings. There are the large and colourful field machines, and the cattle in the yards, and further away the trees, the fields, hills, water and sky. None of these is as important in urban and industrial design as it is in farm design.

Of the building materials proper, the foremost in evidence is the fletton brick, kiss marked, and 130s. or so per thousand. Anyone who can make a thing of beauty of them deserves well of the English countryside. I have worried a lot about it, and I can give you a few tentative suggestions:

Fletton bricks respond to "flaring"—the admixture of dark bricks in the bond. Sometimes one sees an exposed party wall on a city bomb site, newly built of LBC flettons, with the bond of the chimney-stacks boldly recessed. These sharply defined shadows seem to improve the whole texture enormously. One can get a similar effect by using broken bricks, with the rough broken side facing out, and standing proud of the brickface, as on the gable wall of the Stevenage flats by Yorke, Rosenberg and Mardall. The Coleford brick has a cinder black centre when broken, and they cost only 160s. or so a thousand. The finest material for flaring are Staffordshire blue bricks or similar plum-coloured bricks. If 5 per cent. of these are added to the common work the cost of the outside skin of the wall is still below that of any facing brick—about 150s. per thousand.

Fletton brickwork does not take kindly to being cut about by openings and small projections. In a large, unbroken surface each brick can forget its individuality and merge into a general dappled effect. Once that overall effect is established one can contrast it with other surfaces to reasonably good effect, to asbestos, to glass or to rendered surfaces. If there have to be windows or other small openings breaking up the fletton wall, it seems much the best to keep the glass area and the frame as light in colour as possible and the greenish sheen of wired cast glass or the reflection on a glass with a textured surface is better than the blackness of clear glass. In fletton walls, large and heavy concrete lintols are particularly ugly. Dorman Long have brought out a new galvanised steel lintol-cum-cavity flashing which allows continuous brick coursing over openings up to 7 ft. Some such device is surely worth adopting where it is impossible to move the band of windows right up under the eaves purlin. By the same token, the piers of the truss-and-purlin construction ought not to be in the same fletton work as the panels. With a different brick, the pier and panel type of construction can be made to look very neat. The colours that go well with flettons are all the light "Festival of Britain" sort of colours; aluminium paint goes well with it in small areas, and for larger areas the various greys of asbestos cement and precast concrete products. Since the bond can never be used to produce a texture, it is as well to tone the mortar to as near the same colour as the flettons, and to point as the work proceeds—the cheapest way and the most appropriate.

A BEAUTIFUL PANEL

If it can be afforded, London stock bricks are beautiful in a panel-and-concrete post construction, particularly when laid with the horizontal joints pressed back with the handle of a trowel.

Halfway in status between the brick and the concrete block are Dunbrik facings cured concrete bricksize blocks. They are made in a number of good colours, and their "light golden brown" and their "dark brown" are particularly suitable for farm buildings work where concrete frames are used.

Concrete blocks vary very much from place to place according to the size, quality and character of the aggregate. There are few nationally standardised concrete products. Transport becomes the decisive factor at a very limited radius.

The posts and trusses are almost universally bought from stock. Those who know Mies van der Rohe's College of Technology details of post-and-brick-panel construction, are well aware of the possibilities that exist in such simple detail. "There is nothing in it," "hardly anything at all"—"beinah nichts"—the great man used to say. The master of the "beinah nichts" has not, I am afraid, been the designer of the prefabricated structures on which we rely for farm buildings. I am, of course, talking of the visual character. I am not saying anything for their commercial value. I prefer the portal frame to the lattice truss. The portal frame is still a bit more expensive than the lattice truss and that has the advantage that it pays to save one truss in every five or six by making the purlin span larger than the standardised 15 ft. The "Arcon" storage building purlin spans 16 ft. 8 in., and I think that there is a lot to be said for that particular purlin span in farm buildings, not only on visual grounds, but more so on grounds of usefulness. With a portal frame there is no reason to keep the eaves up to 8 ft. There is no tie in the way, and even at 6 ft. one can walk close to the wall without hurt. This is a practical advantage and saves money, and it helps to give a more appropriate scale and character to some of these buildings.

The roof pitch is set largely by the demand of the asbestos cement manufacturers. But why do they insist on 22 to 25 degrees pitch in this country when 15 degrees is good enough, and much more attractive, in Sweden and Switzerland? Some manufacturers of trusses ignore the stipulation and seem to do business with pitches in the neighbourhood of 10 degrees.

Corrugated asbestos roofing sheets and wall cladding have become universally accepted. Yet I wonder why more thought has not been given to the æsthetic detailing of its accessories, and to typical points, such as eaves, gutters, verges, ridge finials, jambs to doors and windows, sills and corner fillets. If this were done, better asbestos cement might be accepted for roofing houses as well as farms and factories.

Where it is possible and sensible to change colours between roof and wall surfaces, on gables and sides, it is obviously architecturally desirable to do so. Asbestos cement gets very brittle if exposed to the carbon dioxide of the country air. It is therefore perfectly reasonable to propose a different sheeting material for the gables and sides. There is some prejudice against the protected metal sheets because of the alleged fire risk, but I believe that protected metal sheets, with or without mineral granular finish, will come into their own again—if steel remains in plentiful supply. The modern coverings, such as Ruberine Spray or Decraspray, with top dressings of coloured stone chippings, stand up to the sun and have not enough combustible substance to sustain a fire for a dangerous length of time. But has any thought been given by any manufacturers to produce just the right colour and texture for use with asbestos cement roofing, or fletton brick walls or any of the other usual standard materials? The maroon they produce is just a little too brownish and the green too powerful. What we need are a clear maroon, a silver grey and a yellow-green. All these corrugated materials gain enormously by a flat and accurate finish to the ends of their flutes.

The standard windows available for farm buildings are moderately effective and hard wearing, but by themselves they are ugly. They are better when grouped, but a new design with larger sheets of glass is overdue. There is an increasing reliance on roof lighting for these generally fairly deep buildings, and it seems to me that, apart from ventilation and need to be able to look out and to see what is going on, wall windows have little practical use. These small windows are the eyes of the buildings inasmuch as they look outward. The gable walls are the proper place, it seems to me, for the glazing to let the light in; much too little use is made of patent glazing. In the apex of the gable there is little risk of damage, and roof lights are only 50 per cent. efficient at the gable ends of a building. Hills patent

glazing at 40-in. centres seems to offer a good solution. Old cowsheds with large open roofs, too wide to be efficiently lit by wall windows, can be reconstructed by opening up the gable walls and glazing them from the apex to the sliding door lintol, and sufficient light will penetrate 30 ft. back and more, so that expensive roof lights are only needed for the centre bays of buildings longer than 60 or 70 ft.

ACHIEVING HARMONY

Let me finish by putting forward a few ideas about the other elements of the farm buildings scene, that I mentioned at the start, the "raw materials" of the design in a wider sense. What is the character and expression, architecturally, that is appropriate to the various elements and to a whole set of farm buildings? When can one say that a set of buildings harmonises with the countryside and is a contribution to the countryside?

"To thine own self be true" is a good standard to follow, it seems to me, for the character of each building. The farmhouse is the cockpit, the head and the eyes of the farm. It is also a private residence, and often a prosperous one; it has a private sphere, a walled or hedged garden, perhaps; but as a farmhouse it plays its definite part in the scheme. It is perfectly legitimate to build it in a different material, colour and texture from the rest of the buildings and to set it apart, but there must be some sort of solidarity with the farm buildings—perhaps as between a staff car and an Army lorry.

The Dutch have an admirable farm buildings pattern which they call "head, neck and rump." The farmhouse is the head, the dairy and food preparation room is the neck, and the barn and cowhouse—usually under one roof or in one compound structure—form the "rump." That pattern puts each thing in its place.

Modern farm buildings have tended to be grouped alongside or on both sides of a straight concrete road. That is already an advance on the vast expanses of concrete in the old square plans, but we can become a little more articulate still, without harm, and with architectural gain. Each building has its own particular aspect: the house will face the finest view, the approach road, the fields—it will find its own aspect and layout from several considerations. The cattle sheds will face south-east, the cowhouse and dairy may run due north and south or due east and west. There is no need to line all the buildings up in neat rows along the concrete runway. With articulation there comes the task of grouping the parts in a way that the open space beween them becomes alive—a place where one works and lives and has one's being. Where the individul elements are destined to be austerely simple and sometimes crude, the architect's art will have to bring the whole to life and appropriate expression by his conscious design of the open space between and around them. It is a strange reflection that it takes our very best men to achieve this task; yet it seems to have been easy to men who had to do the same job not so very many decades ago.

DISCUSSION

MR. F. W. HOLDER said that there was little which he could add to Mr. Rosenberg's excellent paper and illustrations, which showed that the design of farm buildings was quite as technical and specialised as school or hospital work and that there was a great scope for the architect. Although architects would be limited as to cost, in most cases by a sensible use of the materials at their disposal they could get very good results. The 1947 Town and Country Planing Act gave fairly wide exemption to agricultural buildings because of the need for increased food production. That exemption had led to abuses, but on looking at the Statutory Instrument concerned he noticed there was a proviso that the exemption was experimental and that in due course the privileges might be expected to be withdrawn if the standards were not maintained. It behoved them all to treat their buildings as if they were controlled by planning regulations.

He fully agreed with what Mr. Rosenberg had said about prefabrication. The problem of the flexibility of farm buildings and the possible necessity for adaptation later as farms changed hands and methods altered led one to the prefabricated, post-and-panel type of construction, which if treated well should suffice for all the needs. There was a wide selection of different types of prefabricated framework, some good, some bad and some horrible.

His own idea of buildings of all kinds was that they should appear to grow out of the ground rather than be planted on it, and this was particularly applicable to agricultural buildings.

MR. KEITH S. FOX, ARIBA, asked whether Mr. Rosenberg considered that aluminium sheet was suitable for Dutch barns and for cloaking, and whether there was any method of using Perspex, or an easy way of fitting Perspex into an existing slate roof where there were corrugated edges, and also whether he thought that cedar shingles were of practical use on farm buildings.

MR ROSENBERG replied that there was a new aluminium sheet at the Building Exhibition which he thought had great possibilities. It was a clip-on sheet, which he believed came from Switzerland. It would clip on to purlins without any hook bolts, with an almost unlimited opportunity for re-using it in a different place. It could be used as vertical sheeting and for roofing, and even for divisions between poultry pens or farrowing pens. He did not think that the ordinary type of aluminium sheet which was pierced and used with hook bolts, possibly setting up corrosion by electrolysis, would be as successful. As for design, great use could probably be made of it in a position where it was not easily damaged. It bent and deformed easily, and if knocked about would become shoddy. Contrasted with other surfaces, it could have a very good effect.

With regard to Perspex, slates were on battens, and a flat material, not corrugated, would be adequate. Corrugated Perspex would also be comparatively ineffective, because the slating battens would cover much of the light. He did not think that those roof-lights were very good in such roofs; it was better to use gable lighting and vertical Perspex, which was used too little, or patent glazing.

The use of cedar shingles was very much a matter of cost. With the necessary backing it would be excellent, but it was essential to have an internal wall to get the smooth surface inside which was required for farm buildings.

A MEMBER remarked that a great deal of emphasis had been placed in the discussion on flexibility and adaptability, but in all the illustrations which had been shown the emphasis had been on concrete buildings and reinforced concrete frames, or in other words on one of the least flexible and adaptable of materials to use. He would like to hear Mr. Rosenberg's comments on that.

MR. GERHARD ROSENBERG did not agree that concrete and reinforced concrete were not flexible or adaptable, because adaptation was possible within the framework of the main structure. If one had a span of 35 feet, for example, with supports no nearer than 15 feet, if the height was not excessive one could put it to all sorts of uses. He had shown a chicken-house which was perfectly adaptable to a piggery or cowshed, or the front wall could be pulled down and it could be made into an implement shed.

THE CHAIRMAN thanked all those who had gone to such enormous trouble in preparing papers and coming to the meeting to present them, and the meeting then terminated.

WAR DAMAGE PAYMENTS

Commission's Work in 1953

THE War Damage Commission paid out £38 million during 1953, compared with £57 million in 1952 and £72 million in 1951. The average weekly rate of payments in the last quarter of 1953 was £675,000.

The Commission paid 64,000 "cost of works" claims for repairs during the year, and made 15,000 payments on account. The amount involved was £32½ million of which about £14½ million was for the repair and rebuilding of houses.

Other principal items were: commercial buildings, £5½ million; factories, £4¼ million; churches, £2¾ million; shops, £2¼ million.

The average individual payment during 1953 was £500, compared with £410 in 1952 and £342 in 1951.

Value payments amounted to nearly £5½ million, of which £1½ million related to houses. Greater London's share of the total was £22 million.

Total war damage payments by the Commission now amount to £1,115 million in 4,600,000 separate payments. Contributions by property owners during and after the war amounted to nearly £200 million.

During the year the services of a number of the Commission's assessors were lent to the Lord Mayor's National Flood and Tempest Distress Fund to assess applications for grants. Nearly 50,000 assessments were made of which 27,000 were for buildings, 18,000 for chattels and 4,400 for stock-in-trade.

HOUSE-BUILDING WITH A TOWER CRANE

Course of Lectures

IN CONFORMITY with their policy of keeping abreast of the latest developments in building technique, the LCC Brixton School of Building has arranged a special course of three weekly lectures on the use of the tower crane for house-building. The lectures will commence on February 2 at 6.30 p.m.

The outline syllabus is as follows:—(1) Introduction to the subject (illustrated by film made at the experimental site at Norwich). (2) Mechanical equipment used, such as brick handling devices, turntables, etc. (3) General principles of preplanning and phasing of building operations in regard to the use of the tower crane.

The lecturers are Messrs. N. S. Pippard, J. F. Eden, BSc, AMIMechE, and H. F. Broughton. Fee for the course is £1. Applicants should apply to the secretary at the school, giving name of firm, position held and qualifications.

PROPOSED AMENDMENTS TO THE LONDON BUILDING ACTS

Changes in Permitted Heights of Buildings

SOME important amendments to the London Building Acts are proposed in the London County Council (General Powers) Bill now before Parliament. The proposed amendments may be summarised as follows:

(1) Section 28 of the 1930 Act (which requires the Council to keep a register of conditional consents in connection with building lines) is to be repealed.

(2) The limit for the height of buildings is to be raised from 80 to 100 ft., but a new method of measuring the height of buildings is introduced.

(3) Some of the restrictions on special and temporary buildings contained in section 30 of the Act of 1939 are to be modified; section 30 is also to be amended by the substitution of a reference to the Town and Country Planning Act, 1947, for the existing reference to the 1932 Planning Act.

(4) The Council is to be allowed a period of two months for the consideration of plans submitted to them under section 34 of the 1939 Act in connection with means of escape from fire.

The Bill is, of course, subject to the approval of Parliament and it will probably be four or five months before it becomes law. Some explanation of the proposals may, however, be useful at this stage, and the following notes deal with each of the above proposals in rather more detail.

Register of Consents

Section 28 of the 1930 Act requires the Council to keep a register of all conditional consents given for the erection of buildings in front of the general line and this register is to be kept open for inspection by all persons interested at all reasonable hours. Clause 11 of the new Bill proposes to repeal this requirement. The repeal of section 28 would not affect the very wide powers of the Council to impose conditions when granting consent for the erection of buildings in front of the building line.

Height of Buildings

The proposals relating to the height of buildings are perhaps the most important of the amendments contained in the new Bill. Section 51 of the Act of 1930 prescribes a maximum height for buildings (other than churches and chapels) of 80 ft., exclusive of two storeys in the roof and of ornamental towers, turrets and other architectural features.

Clause 12 of the new Bill proposes to raise this limit from 80 to 100 ft., but to abolish the permitted addition of two storeys in the roof. Architectural features will be permitted at a greater height than 100 ft. provided (a) that they are constructed only for ornamental purposes or for accommodating stairs, lifts, installations or water tanks; (b) that the height of such architectural features does not exceed ten feet; (c) that the total area of all such architectural features taken together does not exceed in area five per cent. of the area of the roof.

The new Bill also proposes to change the law relating to the height of buildings erected before the passing of the London Building Act, 1894. Section 51 of the 1930 Act provides:

(i) that a building existing on August 25, 1894, may be rebuilt to the height at which it existed on that date; (ii) that where any building which existed on August 25, 1894, and which formed part of a continuous block or row of buildings, exceeded the 80 ft. maximum, any other building in the same block belonging at that date to the same owner may be built up to the same height.

The first of these exemptions is preserved by the new Bill, but the second exemption will disappear if the Bill becomes law.

The new Bill does not affect the power of the Council to consent to the erection of a building at a greater height.

Special and Temporary Buildings

Section 30 of the Act of 1939 enables the Council to consent to the erection of retention of buildings or structures although they do not conform to the general requirements of the London Building Acts or the by-laws as to the construction of buildings. If however, the building does not exceed 200 sq. ft. in area or 7ft. 6in. in height, the power of consent is vested in the metropolitan borough council and not in the LCC, but the borough council's powers are subject to certain limitations including the following:

(a) If the building or structure would infringe any scheme or order under the 1932 Planning Act, the consenting authority is to be the LCC.

(b) No consent at all can be given if the building would be used for the storage or manipulation of inflammable materials, or for the purposes of human habitation;

(c) No consent at all can be given if the building is to be joined on to a building which conforms to the standards of construction prescribed by the Acts generally and the by-laws.

The new Bill proposes to amend these requirements. In case (a) the reference will in future be to the development plan under the 1947 Planning Act. In cases (b) and (c) the LCC—not the borough council—will be able to give a consent in suitable cases.

Means of Escape

Section 34 of the 1939 Act requires that means of escape from fire shall be provided for certain classes of buildings in conformity with plans approved by the Council; the Council are allowed one month in which to give a decision on the plans. This period is to be extended to two months. It is understood that the purpose of this amendment is to bring the period into line with that laid down for dealing with applications for planning permisson.

MoW WINTER LECTURES

Programme for February

THE programme of Ministry of Works' lectures for February is as follows:—

February 1.—"Surface Finishes of Concrete," by J. G. Wilson, ARIBA. Town Hall, Luton. 7.30 p.m.

February 2.—"Good Practice in Plumbing," by F. N. Shimmin, BSc(Eng), AMICE. College of Further Education, William-st., Slough. 7 p.m.

February 2.—"Non-Traditional Forms of Construction," by J. Austen Bent, ARIBA. Regal Cinema, Dunfermline. 7.15 p.m.

February 2.—"Copper in Building," by Dr. E. Carr, BSc, AMIMechE. Gas Board's Lecture Theatre, St. John-sq., Cardiff. 7 p.m.; and on *February* 3: Central YMCA, 109, Commercial-st., Newport. 7 p.m.

February 3.—"Essentials of Good Concreting," by E. H. MacMillan, BSc(Eng), MICE, MIStructE. College of Art, Green-lane, Derby. 7.15 p.m.

February 3.—"Essentials of Good Concreting," by E. E. H. Bate, CBE, County Technical College, Stafford. 7.15 p.m.

February 3.—"Structural Uses of Timber," by H. Wilkinson. Technical College, Nelson-street, Rochdale. 7.15 p.m.

February 3.—"Opportunities and Prospects for Building Apprentices," by J. C. Cox, OBE. Technical College, Denzil-rd., Willesden, NW10. 7.15 p.m.

February 4.—"Floor Finishes," by W. J. Warlow. Marine and Technical College, South Shields. 7 p.m.

February 4.—"Copper in Building," by Dr. E. Carr, BSc, AMIMechE. Church Hall, High-street, Merthyr Tydfil. 7 p.m.

February 4.—"Dampness in Buildings," by H. M. Llewellyn, BSc. Technical College, Galashiels. 7.15 p.m.

February 4.—"Prestressed Concrete," by F. Walley, MSc, AMICE. Technical College, Hopwood-lane, Halifax. 7.15 p.m.

February 4.—"Soil Mechanics in the Building Industry," by A. L. Little, BSc(Eng), AMICE. Technical college, Wulfruna-street, Wolverhampton. 7.15 p.m.; and on *February* 5.—Speaker, I. K. Nixon. Technical College, Denzil-road, Willesden, NW10. 7.15 p.m.

February 8.—"Bricks and Brickwork," by T. G. W. Boxall. College of Technology, Salmon Pastures, Sheffield. 7.15 p.m.

February 9.—"Post-War Trends in Road Planning and Construction," by J. G. Taylor, MICE, King's College, Newcastle-upon-Tyne. 7 p.m.

February 9.—"Non-Traditional Forms of Construction," by J. Austin Bent, ARIBA, Burnetts Restaurant, Academy-street, Inverness. 7.15 p.m.

February 9.—"Woodworms in Timber Yards and Buildings," by R. C. Fisher PhD, BSc. Technical College, Manor Croft, Burton-on-Trent. 7.15 p.m.

February 9.—"The Thermal Insulation of Buildings," by C. S. Goyder, MA, AMIMechE, Municipal College, Department of Building, Anglesey-road, Portsmouth. 7 p.m.

February 9.—"Principles of Sound Plumbing," by R. V. Lindsley, ARICS, Co-operative Hall, Kingston-square, Kingston-upon-Hull. 7.15 p.m.

February 9.—"New Timbers and their Uses," by D. H. Carstairs, Council Library, Blaenau Festiniog. 7 p.m.

February 10.—"Waste Plumbing Fundamentals," by R. A. Parker, AMICE, Technical College, Cathedral-street, Lincoln. 7.15 p.m.

February 10.—"The Lighting of Buildings," by J. B. Collins, BSc(Eng). Gas Show Rooms, Town Hall Extension, Albert-square, Manchester. 7.15 p.m.

February 10.—"Latest Techniques for Electrical Installations in Small Buildings," by G. Waters, BSc(Eng), AMICE, South West Essex Technical College, Forest-road, Walthamstow, E17. 7.15 p.m.

February 10.—"New Timbers and their Uses," by D. H. Carstairs. County Offices, Aberystwyth. 7 p.m.; and on *February* 11.—The Guildhall, Cardigan. 7 p.m.

February 11.—"Scottish Building Practice and Techniques," by D. K. Baron, MA, ARIBA. Kidds Restaurant, 126, Reform-street, Dundee. 7.15 p.m.

February 11.—"Modern Developments in Concrete," by R. C. Blyth, MA, MICE, MIStructE. Schofield Technical College, Park-road, Mexborough. 7.15 p.m.

February 11.—"Building Houses with Tower Crane," by N. S. Pippard. Hammersmith School of Building, Lime-grove, Shepherds Bush, W12. 7.15 p.m.

February 12.—"Modern Colour Treatments and Materials," by B. Butler. Technical College, Roe Green, Hatfield, Herts. 7.30 p.m.

February 16.—"Essentials of Good Concreting," by E. E. H. Bate, CBE, Court Room, Town Hall, Banbury. 7 p.m.

February 16.—Debate: "That Greater Use of Alternative Materials Would Give Increased Productivity in New Housing." Technical College, Northgate, Darlington. 7 p.m.

February 16.—"New Timbers and their Uses," by J. Jowett. Technical College, Bell-street, Wakefield. 7.15 p.m.

February 16.—"Some Problems of Tiled and Slated Roofs," by G. J. Langdon-Thomas, ARIBA. Public Library, Abingdon-street, Northampton. 7.15 p.m.; and on *February* 17.—Technical College, Lichfield-road, Great Yarmouth. 7.30 p.m.

February 17.—"Development Trends in Building Plant," by W. R. Matthews, AMIMechE. College of Technology, Howard-street, Rotherham. 7.15 p.m.

February 17.—"Latest Techniques for Electrical Installations in Small Buildings," by G. Waters, BSc(Eng), AMICE. College of Technology, Byron-street, Liverpool. 7.15 p.m.

February 17.—"Hardwoods for Building," by B. J. Rendle, BSc, ARCS. Medway Technical College, High-street, Chatham. 7.15 p.m.

February 17.—"Structural Uses of Timber," by S. Woolf, BSc(Eng). North Staffordshire Technical

College, Cauldon-place, Stoke-on-Trent. 7.15 p.m.

February 18.—"Better Building (British Standards and Codes of Practice)," by Patrick Cutbush, ARIBA. Technical College, Workington. 7 p.m.

February 18.—"The New Model Bye-Laws," by R. A. Simons. South East London Technical College, Lewisham-way, SE4. 7.15 p.m.

February 18.—"Multi-Storey Housing," by Archibald G. Jury, FRIBA. 39, Elmbank-street, Glasgow. 7.15 p.m.

February 18.—"Repair of Dangerous Buildings," by F. L. Felgate, ARIBA. Polytechnic, Regent-street, W1. 7.15 p.m.

February 18.—"The Lighting of Buildings," by J. B. Collins, BSc(Eng). Croydon Polytechnic, Building Department, Selhurst-road, South Norwood, SE25. 7.15 p.m.

February 19.—"The Practical Application of Reinforced Concrete in Building Construction," by D. M. Chaston. City College, Ipswich-road, Norwich. 7.30 p.m.

February 23.—"The Thermal Insulation of Buildings," by C. L. Haddon, MSc, FRIC. Technical College, Chesterfield-road, Mansfield. 7.15 p.m.

February 23.—"Essentials of Good Concreting," by E. E. H. Bate, CBE. Bournemouth Municipal College, Building Department, Shelley Park, Boscombe. 7 p.m.

February 23.—"The Installation of Domestic Fuel Appliances," by G. C. Grogan. Technical College, Bolton. 7.15 p.m.

February 24.—"New Timbers and their Uses," by G. Hart. Technical College, High-road, Tottenham, N15. 7.15 p.m.

February 24.—"The Advantages of Thermal Insulation of Buildings," by J. S. Alton, AMIMechE. Technical College, The Butts, Coventry. 7.15 p.m.

February 25.—"Development Trends in Building Plant," by W. R. Matthews, AMIMechE, Kirby Grammar School, Middlesbrough. 7 p.m.

February 25.—"Legal Obligations of Building Contractors," by John J. Clarke. Ministry of Works Building, Ashley-street, Birmingham 7.15 p.m.

February 25.—"Multi-Storey Housing," by Archibald G. Jury, FRIBA. Council Chambers, High-street, Edinburgh. 7.15 p.m.

February 25.—"The Thermal Insulation of Buildings," by J. M. Boardman. Technical College, Hempstead-road, Watford. 7 p.m.

February 25.—"Building Houses with the Tower Crane," by N. S. Pippard. Technical College, 159, Tadcaster-road, York. 7.15 p.m.

February 26.—"Modern Developments in Concrete," by R. C. Blyth, MA, MICE, MIStructE. Technical College, Roe Green, Hatfield, Herts. 7.30 p.m.

February 26.—"The Lighting of Buildings," by J. B. Collins, BSc(Eng), AMIEE. Technical College, Egerton-road, Twickenham. 7.15 p.m.

COAL OR ARCHITECTURE?

Rival Claims at Arbury Hall Inquiry

THE question as to whether the special architectural features of Arbury Hall, near Nuneaton, would be damaged by subsidence if the National Coal Board was granted permission to work the coal lying underneath was one of the problems discussed at an inquiry into the Board's application which was held at Nuneaton last week.

MR. MICHAEL ROWE, QC, for the Board, said that unless permission were given there was a serious danger that Griff Colliery, which employs 600 men, would have to close down.

The Board's proposals to extract 500,000 tons of coal from two seams in a pillar under the hall are being opposed by the owner of the hall, Captain F. H. M. Fitzroy-Newdegate, and by the Warwickshire County Council.

Organisations represented at the inquiry included the Birmingham and Five Counties Architectural Society, the George Eliot Fellowship, the Society for the Protection of Ancient Buildings and the Georgian Group.

Opening the inquiry, MR. S. T. ROBERTS, an Inspector of the Ministry of Housing and Local Government, read a statement from the Minister's Advisory Committee on buildings of special architectural and historic interest. The hall, which has been in the Newdegate family for more than 400 years, was stated in the report to have been listed in Grade 1 as being of national importance, and was "without exception the finest and most complete example of eighteenth-century Gothic decoration in the country."

Emphasising that the most notable element in the eighteenth-century remodelling of the original Elizabethan house was the series of vaulted ceilings with elaborate plaster ribs and tracery, the report adds: "If these vaults were disturbed or dislocated to a slight extent the damage to the plaster work would be irreparable."

For the Board, MR. ROWE said it was intended to work only two of the four seams in the pillar of coal, which had been excluded from the original mineral lease granted to the Griff Colliery Co. In view of this and the careful methods which would be used, the Board felt there was no real risk of serious damage to the hall.

The manager of Griff Colliery, MR. GEORGE NEATH, told the inquiry that the first extraction of a 5-ft. seam of coal would be at a depth of 1,220 ft. below the hall. A second deeper seam would be worked a year after completion of the first seam.

MR. R. J. ORCHARD, subsidence officer to the Board, said he estimated that when the first panel of coal was worked under the hall the maximum subsidence would be less than a foot. The maximum depression when the two flanking panels were completed would be 3 ft. 9 in., but in the methods to be used would, in the absence of faults in the strata, allow the hall to sink evenly.

Similar views were expressed by PROFESSOR E. J. L. POTTS, Professor of Mining at King's College, Durham, and MR. HAROLD GOLDSTRAW, subsidence consultant to the Board, who said he did not think it possible for damage to occur which could not be replaced by a good craftsman. During operations the fabric of the hall, Mr. Goldstraw added, would be kept under constant supervision by the Board.

Gothic Revival House

At the hearing on Wednesday, MR. DAVID NYE, LRIBA, a member of the technical panel of the Society for the Protection of Ancient Buildings, said the evidence given about a food store the previous day by Coal Board experts was completely false.

Earlier in his evidence, Mr. Nye had told the inquiry that the hall was considered to be the earliest important Gothic revival house in England. He was of the opinion that a movement of only a few inches would almost certainly result in the collapse of the vaults

MR. H. W. HOBBISS, who opposed the application on behalf of the Birmingham and Five Counties Architectural Society, said no modern plasterer would be able to repair the damage which was likely to be caused.

Also opposing for the Birmingham Archæological Society, MR. P. B. CHATWIN, FRIBA, said the hall was the only building where eighteenth-century Gothic work had not been interfered with by the Victorian Gothic revivalists.

MAJOR NOEL WEBSTER, president-elect of the Institute of Mining Engineers, who was called on behalf of the owner of the hall, Captain F. H. M. Fitzroy-Newdegate, said that in his opinion, the 35 acres of coal was a relatively insignificant amount when compared with the possibility of serious damage to the hall.

MR. MARSHALL SISSON, FRIBA, a member of the Government's Advisory Committee on buildings of architectural and historic interest, said he considered the risk of heavy compensation which would be payable by the Board in the event of damage was a major factor to be considered. The cost would be in "tens of thousands" of pounds.

Continuing the inquiry on Thursday, January 14, MR. D. S. NEWEY, National Coal Board Area subsidence officer, said, in regard to the food store, that there was no evidence at all of damage to the foundations due to mining subsidence.

Formal evidence of the Warwickshire County Council's objection to the application was given by MR. J. J. BROOKS, the county planning officer, who said that Arbury Hall was the only building in the Nuneaton area listed as a Grade 1 building for architectural reasons.

A similar objection was lodged on behalf of the Nuneaton Corporation by MR. G. ASHTON, borough engineer, who said that as Nuneaton was essentially an industrial town possessing few natural amenities within its boundaries, the Council was most anxious to protect those which remained.

MR. LEWIS JENNINGS, vice-president of the George Eliot Fellowship, said it was the view of the Fellowship that any damage to the hall from mining subsidence would take away the very heart and centre of the George Eliot countryside, which the Fellowship was hoping to develop as a tourist centre, particularly for Americans.

In his closing remarks on behalf of the County Council, and other societies he represented, MR. F. MATTAR said the inquiry had proved beyond doubt that it could be no more than hopes or conjecture that damage would not be caused to the hall.

The country was not so bankrupt of natural wealth lying beneath the soil that it needed to take the risk of damaging such an historic building.

MR. MICHAEL ROWE, QC, for the National Coal Board, said the 500,000 tons of coal which it was estimated was in the pillar, could hardly be described as a triviality. It would be sufficient on the basis of the present ration to meet the needs of the 60,000 inhabitants of Nuneaton for four years.

After then closing the inquiry, the Inspector said that he would visit Arbury Hall, Temple House South Farm, the Arbury-road food store, and the Griff Colliery.

HOUSING COMMITTEES

"Builders Should Not be Members"

COUNCILLOR TOM SLEEMAN told the monthly (January) meeting of the Grimsby housing committee that in his opinion builders who were members of the town council should not have anything to do with the housing committee.

He claimed that the corporation would have got a "better bargain and been in a better position with housing to-day" if the committee "had done its job properly in 1946" and put contracts out to open tender in the first place.

The chairman of the committee, CLLR. MATTHEW LARMOUR, said it was a debatable point whether it was an advantage to put contracts to open tender, but the committee had done its best for the town and had done quite well.

Earlier in the debate, CLLR. SLEEMAN, alleging that the council was hopelessly behind-hand with its building programme, deplored the issuing of licences for houses over 1,000 sq. ft. in view of the brick shortage.

CLLR. J. BRATTON, a builder, said he was amazed at this, particularly as Cllr. Sleeman "lives in one himself that was built by this council."

INQUIRY BUREAU

Proposed New Garage: Interpretation of Local By-law

Q.—I enclose a copy of a local building by-law, and a sketch showing the position of a proposed new garage. The by-law in question reads as follows:—

SPACE IN FRONT OF BUILDINGS: BY-LAW 82

(1) There shall be provided in front of a domestic building intended to be used wholly or partly for human habitation an open space which measured at right-angles from the building to the boundary of any land or premises immediately opposite, or in the case of a building fronting on a street to the opposite side of the street, shall throughout the whole frontage of the building extend to a distance of not less than 24 feet.

Provided that, if the building fronts on a street of a less width than 24 feet, the distance may be not less than the width of the street, together with one half of the difference between that width and 24 feet.

(2) Any open space provided within the curtilage of the building in pursuance of this by-law shall be free from any erection thereon above the level of the ground, except a fence or wall not exceeding seven feet in height, or a portico, porch, step or other like projection from the building, or a gate.

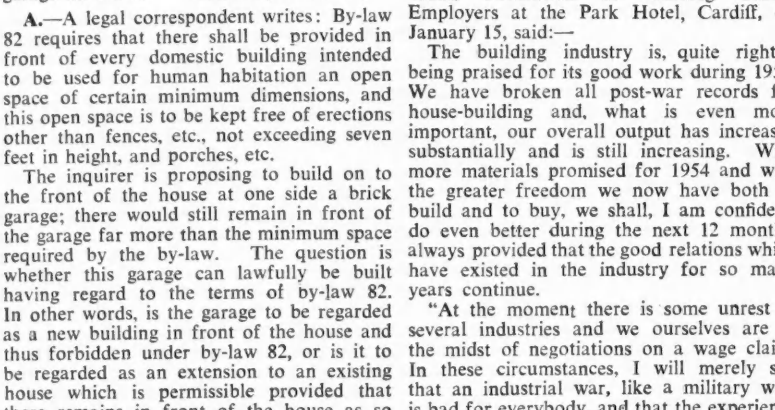
Am I correct in assuming that the above by-law does not apply to the proposed garage as sketch? LRIBA (Whitstable).

A.—A legal correspondent writes: By-law 82 requires that there shall be provided in front of every domestic building intended to be used for human habitation an open space of certain minimum dimensions, and this open space is to be kept free of erections other than fences, etc., not exceeding seven feet in height, and porches, etc.

The inquirer is proposing to build on to the front of the house at one side a brick garage; there would still remain in front of the garage far more than the minimum space required by the by-law. The question is whether this garage can lawfully be built having regard to the terms of by-law 82. In other words, is the garage to be regarded as a new building in front of the house and thus forbidden under by-law 82, or is it to be regarded as an extension to an existing house which is permissible provided that there remains in front of the house as so extended at least the minimum space required by the by-law?

To answer this question, it is necessary to look at the by-laws as a whole. By-law 89 provides that no alteration and addition to a building and no building shall be erected that would cause the open space about a building to be less than that required by the by-laws. By-law 89 is not wholly free from ambiguity, but taken in conjunction with the other by-laws dealing with space at the front and rear of buildings, I am of opinion that it does enable an extension to be erected in front of the building. The by-laws offer no guidance as to what is an extension, but I think that the garage in the present case may fairly be regarded as such.

If this view is not acceptable to the local authority, it might be worth while asking the authority to agree to a joint reference to the Minister of Housing and Local Government under section 67 of the Public Health Act, 1936. A. E. T.



Position of proposed garage, in relation to house and road.

BUILDING OUTPUT

Mr. Wilfred Horsfall's Forecast

MR. WILFRED HORSFALL, president of the National Federation of Building Trades Employers, at the annual dinner of the South Wales Federation of Building Trades Employers at the Park Hotel, Cardiff, on January 15, said:—

The building industry is, quite rightly, being praised for its good work during 1953. We have broken all post-war records for house-building and, what is even more important, our overall output has increased substantially and is still increasing. With more materials promised for 1954 and with the greater freedom we now have both to build and to buy, we shall, I am confident, do even better during the next 12 months, always provided that the good relations which have existed in the industry for so many years continue.

"At the moment there is some unrest in several industries and we ourselves are in the midst of negotiations on a wage claim. In these circumstances, I will merely say that an industrial war, like a military war, is bad for everybody, and that the experience of the past has amply confirmed the wisdom of referring disputes which cannot otherwise be settled to arbitration."

WAGE INCREASE AWARD

National Joint Council's Statement

THE National Joint Council for the Building Industry, after its meeting on January 14, issued the following statement:—

The council, at its meeting in London today, carried out the usual annual review of wages in the building industry (as required by its constitution) and found that an increase of 1d. per hour becomes due and will operate from February 1 next, in accordance with the sliding-scale agreement based on the retail prices index.

The council heard evidence on a number of claims. These included applications from the operatives for a further general wage increase of 9d. per hour and for a guaranteed week of 44 hours.

Other applications were made regarding tool allowances, travelling rules, extra payments for operating and maintaining certain kinds of mechanical plant, etc.

The council adjourned its consideration of all these claims in order to enable both sides to examine the evidence submitted.

Engineers and Steel Erectors

The Civil Engineering Construction Conciliation Board also announced, on January 14, that there would be an increase of 1d. an hour, under their sliding scale arrangement, for the 150,000 employed in civil engineering construction work.

On the same day steel erectors, of whom there are between 10,000 and 12,000 in the engineering construction industry, concluded an agreement for additional "height money" with the Engineering and Allied Employers' National Federation. There has been a long dispute over this since the trouble on a development scheme at Scunthorpe steelworks last November. At that time additional money for working at a high level began at 100 ft. The men claimed that it should begin at 40 ft., which the employers said meant that they would nearly all get extra money.

The compromise reached is that height money shall begin at 3d. an hour at 75 ft. Between 100 ft. and 150 ft. the men will get 5d. an hour more, which is an increase of 1d., and there will be an additional 5d. for each extra 50 ft. The new arrangements come into force immediately. Lodging allowances are also increased by 1s. a day in the London area and 1s. 6d. a day in other areas, making 8s. a day in all areas.

THE 9d. WAGE CLAIM

National President's Warning

SPEAKING at the annual general meeting of the South-Western Federation of Building Trades Employers at Bristol on January 20, MR. WILFRED HORSFALL, national president, said: "In connection with the 9d. an hour wage claim now being considered by the NJC I must urge that ill-considered action by either side at this juncture might do incalculable harm.

"We do not work for the export market, but the health and happiness of hundreds of thousands living and working under bad conditions depend on our efforts. The first task for 1954, therefore, is to get a settlement which is fair not only to the employer and to the operative but to the building owner as well. He is the man who pays the piper, and if he decides that the cost of our product is too high—and there are many signs that his mind is already working this way—there is bound to be unemployment in our industry."

TWO BUILDING EXHIBITIONS

MoW Exhibits at Willesden and Norwich

TWO building exhibitions organised by local educational authorities in co-operation with the Ministry of Works will be held at technical colleges in London and Norwich during February. At both events members of the public will be able to visit workshops of the colleges where these exhibitions are being staged.

The Minister of Works, Sir David Eccles, MP, will open the first, at Willesden Technical College, Denzil-road, NW10, on February 1 at 3 p.m. The exhibition will remain open until February 6.

The exhibition at Norwich will be opened by the Lord Mayor of Norwich, Mr. J. H. Mottram, at 2.30 p.m., February 16. It will be held in the Norwich City College, Ipswich-road, and in the School of Art, St. George-street, from February 16-20.

The Willesden Exhibition

"Building To-day" is the theme of Willesden's exhibition, where besides the Ministry's exhibits, visitors will see displays by building development associations and the local borough council, demonstrations of portable powered tools, and the work of students.

The Aluminium, Zinc, Lead and Rubber Development Associations' displays will be concerned with the use of their respective products.

Equipment used in connection with coal, gas and electricity will be on view, and demonstrations of portable powered tools will include those used in carpentry and joinery, plumbing, metal work, painting and decorating.

Throughout the week, craft competitions for students will be held. Visitors will be able to inspect students' work in classrooms and workshops.

Ministry of Works exhibits will be:—

"*Teamwork in Building*," first exhibited to the public at the Building Exhibition, Olympia, last November. It illustrates how rapid, efficient building depends on good organisation and on close collaboration by all concerned. Separate sections deal with the main phases of commissioning, designing and constructing new buildings. Among factors emphasised are the importance of providing complete advance information to those responsible for design, construction and equipment, and of planning the use of suitable machines. The need for detailed programming and progressing, and of clear understanding between supervisors and operatives on the site, is also stressed.

"*Careers in Building*." Boys of school-leaving age, and their parents, will find much to interest them on this stand, as it shows what the industry offers to new entrants or intending entrants. The exhibit contains examples of bricklaying, carpentry, joinery, plumbing, plastering, painting and decorating, designed to illustrate how pride of craftsmanship is fostered by the training given to apprentices.

"*Building Research and Housing*," showing the use of new methods and materials in house building. Illustrated panels, models and diagrams demonstrate construction of foundations, walls, floors, and roofs, and also deal with timber, finishes, plumbing, drainage and heating.

Visitors will have an opportunity, also, to learn some of the work of the technical information service of the Ministry of Works, whose officers provide a link between local interests and research organisations, and give advice on everyday technical problems in the building industry.

Films dealing with building will be shown daily at 3 p.m. Lectures on subjects connected with the industry will be given at the college at 7.15 p.m., February 2, 3 and 5. A wide range of building publications will be on sale.

The exhibition will be open from 11 a.m. to 9 p.m., February 1-5 and 11.30 a.m. to 5 p.m., Saturday, February 6. Admission is free.

The Norwich Exhibition

The Ministry's exhibits at the City College will be:—

"*Domestic Plumbing*," which contrasts good and poor practice in domestic hot- and cold-water installations. Models and diagrams show how research has enabled plumbing systems to be simplified and at the same time made more efficient.

The "*Building Research and Housing*" exhibit (see Willesden) will also be shown.

The building workshops of the college will be open to visitors. Displays of students' work and demonstrations of portable powered tools will be staged on the premises.

There will be a daily programme of films; lectures will be given at the college on February 17 and 19, at 7.30 p.m.

At the School of Art, classes will be open to visitors, and examples of students' work will be on view.

The Ministry's displays at the School of Art will be:—

Work for the Coronation. Architectural drawings and photographs, which were prepared by the Chief Architect's Division, Ministry of Works, show some of the constructional work for the Coronation.

Research. Wall charts on such subjects as thermal insulation, pattern staining on ceilings, and the painting of new plaster and cement.

Admission to the College and School of Art will be from 2 p.m. to 8 p.m., February 16-19, and 10.30 a.m. to 6 p.m., Saturday, February 20. Admission is free.

NFBTE PRIZE SCHEME

National Awards for 1953

ON the recommendation of its education and training committee the council of the National Federation of Building Trades Employers has approved the award of the following national prizes for 1953:—

Medal awards: (i) to craft apprentices and young craftsmen.—Silver medal, certificate and cash prize of £50 to H. Boardman, apprentice plumber, of Southport (formerly indentured to the Merseyside Plumbing Co., Ltd., Liverpool). Bronze medal, certificate and cash prize of £40 to R. G. East, apprentice bricklayer, of Enfield (formerly indentured to Messrs. Higgs and Hill, Ltd., London).

(ii) to building students.—Silver medal, certificate and cash prize of £50 to D. A. Hunter, builder's quantity surveyor's pupil, of Tettenhall Wood, Nr. Wolverhampton (formerly articled to Messrs. Wilson Lovatt and Sons, Ltd., Wolverhampton). Bronze medal, certificate and cash prize of £40 to K. E. Marriner, pupil surveyor, of Eastleigh, Hants (formerly articled to Messrs. Brazier and Son, Ltd., Southampton).

Regional prizes: (i) *To craft apprentices—Eastern Federation*: 1st, C. Barrett; 2nd, D. Brewer. *Liverpool Federation*: 1st, F. Barnwell; 2nd, No award. *London Federation*: 1st, J. A. Sparks; 2nd, L. A. Bone. *Midland Federation*: 1st, J. T. Harrison; 2nd, J. Fowles. *North-Western Federation*: 1st, E. Howe; 2nd, B. Anderson. *Southern Federation*: 1st, D. C. Taylor; 2nd, J. W. Belsham. *South-Western Federation*: 1st, M. R. Pearce; 2nd, W. G. Bryant. *South Wales Federation*: 1st, B. C. R. Blain; 2nd, D. W. Brown. *Yorkshire Federation*: 1st, D. J. Watson; 2nd., M. Mosley.

(ii) *To students — Eastern Federation*: 1st, C. S. Reed; 2nd, A. C. Brooks. *Liverpool Federation*: 1st, J. Mallison; 2nd, No award. *London Federation*: 1st, J. A. Rhodes; 2nd, H. W. F. Fuller. *Midland Federation*: 1st, M. J. Carey; 2nd, E. O. Hubball. *North-Western Federation*: 1st, W. J. Overall; 2nd, D. Barber. *South-Western Federation*: 1st, C. M. Brown; 2nd, M. M. Porter. *Southern Federation*: 1st, F. J. West; 2nd, S. W. Webb. *South Wales Federation*: 1st, H. G. Evans; 2nd, J. D. Holbrook. *Yorkshire Federation*: 1st, A. Fryer; 2nd, No award.

These national awards are made under the prize scheme initiated by the NFBTE in 1951. The awards are open to apprentices and students who have been indentured or articled to firms in membership with the NFBTE. In the selection of candidates consideration is given to examination results, school reports, industrial experience and aptitude, recommendations of the technical college principal and the recommendations of the employer.

The medal awards will be presented at the Federation's annual general meeting to be held at the Victoria Halls, Bloomsbury, WC1, on January 27.

CODE OF PRACTICE

Soil and Waste Pipes

THE COUNCIL for Codes of Practice for Buildings has now issued in final form Code 304, "Soil and Waste Pipes above Ground." It was drawn up by a committee convened on behalf of the Council by the Institution of Municipal Engineers, and the present Code is a revision of the draft previously issued for comment. It deals with the design and installation of sanitary plumbing systems, i.e. internal and external soil, waste and ventilating pipes above ground level, but not with rainwater pipes. Detailed definitions are given of the terms used in the Code, also a full list of British Standards covering all materials and appliances likely to be used in the work described.

Section 3, "Design Considerations," contains details of the various systems in use, and gives recommendations as to the general layout and the design of pipe sizes and gradients to carry the discharges from various combinations of sanitary appliances. In order to aid the designer, tables are included giving suggested values, in terms of "discharge units," for various sanitary appliances, together with tables of suitable sizes and slopes of pipes based on these values. Other matters of design treated in this section are traps, with recommended diameters and seal depths for different uses; ventilating pipes, with full details of sizes, layout and methods of connecting to the system; pipe fixings, giving suitable types of fixings for different materials; and advice on the provision of adequate access points to enable proper cleaning to be carried out.

The section devoted to work on site consists of practical recommendations for the installation of plumbing waste systems. Included in this section are jointing methods suitable for pipes of all the usual materials and methods of fixing pipework to the structure. Full guidance is given for inspection, and detailed descriptions of the various tests used in sanitary pipe systems. Copies of the Code may be obtained from the British Standards Institution, 2, Park-street, W1, price 6s., reference CP 304 (1953).

LMBA

The Challenge of Costs

THE annual general meeting of the London Master Builders' Association was held in London, on Tuesday, at which the annual report was presented by the president, Mr. Gerald Hill, MIOB.

In his retiring presidential address Mr. Hill dealt with the challenge of costs to the building industry to-day. He said:

In the past year our industry has obtained a far greater measure of freedom from controls than we have enjoyed since the carefree days before the war. This new-found freedom is a challenge to us; let us make the best possible use of it. There is not going to be an orgy of reckless building. For one thing neither the men nor the materials are there, and for another, which is equally important, building is a social service and first things must still come first.

The public authorities, whether the Government or the local councils, will still be our principal client, and that client is going to look more and more keenly at our prices. So it is with the private owner, too, who, although he may be free to build without licence up to £1,000 or £25,000, will still look even more carefully at these sums before he decides to put his work in hand. If in his judgment the price is too high, he will postpone the work until happier days.

This aspect brings us right up against the question of costs, which is undoubtedly the most important of the problems facing us to-day. How is the cost of building to be reduced? Not by cutting wages, which would be undesirable, even if it were possible. Nor, I fear, by any substantial reduction in the price of the materials we use. As far as I can see only the question of administration and organisation remains, and as this is entirely within our control it seems to be a way in which prices might be brought down.

I am not suggesting that the building industry is inefficient. It definitely is not, but there is surely a great deal more which even the best of us could still do.

The subject of accidents is one which must be tackled seriously by every firm whatever the scope of its work. Apart from the human side, every accident is a direct loss. It is a further loss because, frequently, the psychological effect on others causes a drop in production, if only temporarily. Every one of us, whether management, supervisor or operative, must become really accident-conscious and see that something is done to save this drain on our costs.

The organisation of many building sites provides another field for improvement. The bits and pieces lying about a site are all a "dead loss" as well as presenting an atmosphere of untidiness. Every piece of material that has to be moved before it is used, because delivery point was not thought out, is another dead loss. Herein lies a field for self-examination.

In tackling problems like these we must have the cordial co-operation of the operatives, and I am certain we shall receive it if we show them the need for it. Supervisory management on the job is surely the key to this question, and we must see that our foremen are fully alive to it. Foremanship training has developed on more realistic lines in recent years, and I am sorry that the courses which have been provided are not receiving the support which they deserve. In the coming year we shall be asking all our members to give greater and urgent attention to the subject of foremanship training.

Finally, the challenge made to us in our new-found freedom is nowhere greater than in the field of apprenticeship. New work is coming which promises variety in place of austerity, and in the rebuilding of the City of London particularly there will be ample scope for the training of apprentices in all our crafts. This new outlook may well encourage more boys of the right type to enter into the adventure of building, and we must be ready to offer the vacancies they will demand.

Annual Report

Following are extracts from the Annual Report submitted to the meeting:

Apprenticeship

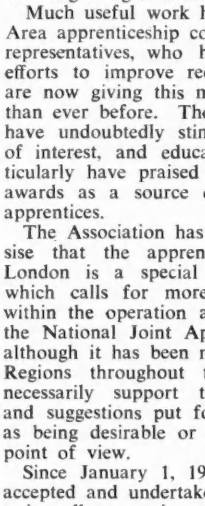
Again this year apprenticeship has been in the forefront of the Association's activities, and while the usual important issues have commanded attention, some new ideas have been brought into practical operation. Unfortunately, during the first months of the year the intake of apprentices declined, and it appeared at one time that the intake for the year would be the lowest on record. After August, however, the position improved a great deal, perhaps in the light of further relaxation of controls, and in fact the end of the year has been reached with a total slightly higher than last year's figure.

It is hoped that the increase in recruitment during the last few months reflects greater optimism on the part of many builders, and indeed it has been interesting to note that various employers who have not in the past accepted apprentices are now beginning to become interested.

Much useful work has been done by the Area apprenticeship committees and borough representatives, who have continued their efforts to improve recruitment, and Areas are now giving this matter more attention than ever before. The Area prize schemes have undoubtedly stimulated a great deal of interest, and education authorities particularly have praised and welcomed these awards as a source of encouragement to apprentices.

The Association has continued to emphasise that the apprenticeship problem in London is a special and particular one, which calls for more regional autonomy within the operation and administration of the National Joint Apprenticeship Scheme, although it has been made clear that other Regions throughout the country do not necessarily support the recommendations and suggestions put forward from London as being desirable or attractive from their point of view.

Since January 1, 1953, the industry has accepted and undertaken the duty of registering all apprentices indentured under the National Joint Apprenticeship Scheme. All apprentices previously registered with the Building Apprenticeship and Training Council were given the opportunity of transferring their registration to the new National Scheme, and so far 1,600 London boys have chosen to do this.



Mr. R. S. Williams, MIOB, FRSA, the new president of the LMBA.

Standard Forms of Contract

The Contracts Committee has continued to receive many reports from members of cases where building owners, architects and quantity surveyors have sought to impose upon contractors conditions which are regarded as inequitable and which differ substantially from those contained in the Standard Forms of Contract accepted by those representing all sections of the industry. In every case efforts have been made to convince those concerned of the advantages to all parties of the use of the Standard Forms without amendment. These efforts have met with considerable success, among which may be mentioned the London Transport Executive, who have agreed to revise the indemnity clause in their various forms of contract to bring it into line with the corresponding clause in the RIBA Standard Form; and discussions on many of their conditions of contract have continued with the Kent and Surrey County Architects. It is with great regret, however, that it has to be recorded, for the third year in succession, that no substantial progress has been made in resolving the position of deadlock which has been reached with the London County Council on their form of contract.

Concerning other local authorities, progress towards uniformity is delayed by the discussions which are understood to be continuing between the National Federation and the Association of Municipal Corporations.

Tendering without Quantities

It is pleasing to be able to record that during the past year there has been a noticeable reduction in the number of cases reported to the Association of building owners, both public and private, seeking to obtain tenders for contracts exceeding £3,000 in value without the provision of quantities. It is hoped, therefore, that building owners, architects and quantity surveyors are becoming more appreciative of the advantages to be gained by enabling members to tender in such cases in accordance with the rule of the National Federation, the terms of which have been officially accepted by the Royal Institute of British Architects and the Royal Institution of Chartered Surveyors.

Metering of Water Supplies

The provision of water supplies by meter for building purposes is a practice which the Association is continually urging should be more widely adopted in the interests of economy and to reduce the cost of building. The greater freedom given during the year for private enterprise house building has given even greater emphasis to the importance of this matter, and this and other matters in connection with the supply of water for house building have been taken up again with the Metropolitan Water Board.

The recent publication by the Board of its proposals for increases in the charges to be made for the supply of water by meter has given the opportunity for the Association to make representations to the Ministry of Housing and Local Government that, if and when these revised charges are approved, it should be made clear that it is in the interests of all concerned that the Board should be prepared to provide a metered supply in the great majority of cases.

Public Schools Appointments Bureau

The Association has continued its membership of the Public Schools Appointments Bureau and has not only gained much valuable information from the bulletins issued by the Bureau from time to time dealing with further education within industry and commerce, but has received numerous applications to assist in placing public school boys who wish to make their career in the industry.

Many of these boys have been introduced to members with satisfactory results to both parties, and it is believed that this progressive liaison between the Association, the Bureau and employers is doing much to bring to the attention of the public the possibilities of a career in the building industry for the public school boy.

Foremanship Training

Four types of specialised courses for the training of foremen have been made available in the London Region, beginning in September, 1953, and a general review of recruitment to those courses in conjunction with the technical schools in which they are being held is now in progress.

This is one of the principal matters under consideration by the London Regional Foremanship Training Committee for the Building Industry, and it is hoped with the co-operation of members to achieve a greater degree of publicity in order to stimulate interest among suitable candidates and so to improve the quality of foremanship.

Housebuilding

The Regional Registered Housebuilders' Committee has been active during the year in considering the situation which has arisen as a result of the relaxation of controls, and representations on many matters have been made through the National Federation to the Minister.

The Regional Registered Housebuilders' Committee have continued to press, through the Federation of Registered Housebuilders, for further guidance to be given to local authorities with regard to the requirements of the New Streets Act. It has been found that in many cases local authorities were requiring builders to make a substantial cash deposit, to provide a bond, and also to enter into an agreement with regard to the laying down of roads on new estates. This appeared to be imposing a quite unreasonable burden on the builder, and it was urged that, in the interests of economy in housebuilding, local authorities should be advised of the need for a reasonable and equitable interpretation of the provisions of the Act.

A considerable amount of detailed information on the practice of local authorities in this respect was collected by the committee for use by the Federation in its approach to the Ministry on the matter.

The committee has continued to make representations to the Ministry in cases where local authorities were attempting to acquire by compulsory purchase orders, for their own development, land in respect of which general planning permission had already been given to private builders some years ago. Attention was drawn again to the circulars issued by the Ministry in 1952 asking local authorities, when selecting sites for their own operations, to avoid so far as possible the use of land owned by builders who themselves proposed to build thereon. Representations have also been made with regard to the provisions to be included in the Bill to amend the Town and Country Planning Act so far as they concerned compensation for compulsory purchase.

Supplies of Materials

At the beginning of the year, as a result of the disastrous East Coast floods, there was a temporary shortage of various materials, particularly cement and glass, but this position righted itself as soon as the emergency had been dealt with. Steel, which formerly had presented such a serious problem, is now no longer a difficulty, and generally speaking the supply position is distinctly easier except with regard to bricks. The brick situation has been really serious and has caused great anxiety and concern to the industry. It is acknowledged that the brick producers have made steady progress and the output has grown consistently and substantially and is still rising, but the requirements of the industry have been greater than production, and the delay in fulfilling orders and the long-term dates for promises of delivery are having an unfortunate effect. Every opportunity has been taken to urge the seriousness of the position upon both the producers and the Government, and there is some feeling of greater hope in regard to supplies for the coming year.

Liaison

The Association has maintained its policy of close liaison with all organisations connected with the building industry, and meetings have been held with London representatives of the Royal Institute of British Architects. As a result of the last meeting a sub-committee has now been set up, which is to include a chartered quantity surveyor, to discuss the possibilities of producing a code of practice for procedure in the placing and management of building contracts.

Membership

The total wages roll of the Association shows a further increase and now totals £47,650,215. At December 31 last the membership figures were as follows:—

Ordinary members	1,466
Associate members	132
Honorary members	5
Total	1,603

The Annual Luncheon

The Minister on Prospects

THE Minister of Works, Sir David Eccles, was the guest of honour at a luncheon in the Park Lane Hotel before the annual general meeting of the Association.

Welcoming the Minister, MR. HILL referred to the LMBA donation to the City and Guilds of London Institute. He announced that he had received promises of individual donations, many of them on a covenant basis, which with the LMBA donation of £250, would make it possible to hand over to the City and Guilds in the course of the next few weeks a sum exceeding £1,000.

SIR DAVID ECCLES, referring to the Association's support for the City and Guilds of London, said he thought it would be a very bad thing if the City and Guilds had to raise their examination fees. To improve the skills of building trades was a national duty, and he would like to support the Association's appeal for subscriptions on behalf of the City and Guilds.

Referring to the past year, he thought that the London building trade could be proud of its achievements at the Coronation, both in regard to the buildings and the decorations. At the Ministry he thought they had learned three things in this time. First, the enormous advantage of a team and the advantage of careful planning, which had proved to him that organisation before the start of a job was essential for keeping to a timetable. Second, what an enormous difference it could make if there was enthusiasm for a job. And lastly, that the British people still loved a show and liked to see fine workmanship.

The Minister said he had talked enough recently about rebuilding the City, and to-day would confine his remarks to rebuilding "the rest of London." In this area of about 700 square miles there was a permanent building labour force of some 210,000 men, capable at their present output of doing about £25m. of work a month. This £25m. a month in Greater London was divided up roughly as follows: £12m. of work below the controlled licensing limits, and therefore not subject to any governmental control; £5m. on housing —new housing, conversions and repairs; £3½m. for authorised and assisted work other than housing, i.e. work carried out by local authorities, Government departments and so on; and £1m. for licensed maintenance and repair work.

The residue, which amounted to £3½m. a month, was available for licensed new work other than housing. The demand, of course, considerably exceeded £25m. a month, but this figure, he thought, was about as much as we could manage at present.

Sir David Eccles then announced that, after a long period of waiting, they were about to start in London two large new schemes of sewerage and draining, costing about £15m.

About £1m. a month was being spent on factories in Greater London, he said, and the outstanding demand in the area for major office schemes was about £50m. (i.e. the Ministry had received applications for licences for this amount); £20m. of this was in the City and £30m. outside. His aim was to allow £1m. a month of such new building in the City and £½m. outside. On the same basis there was £15m. of work to be done in Greater London on churches, and whereas last year £1m. was licensed, this year the figure would be £1½m. — an improvement of 50 per cent. Again, on this basis the demand for new shops amounted to £7m., and for public-houses, clubs and places of entertainment, to £3m.; the potential demand in both these latter instances was probably, however, much greater than these figures indicated, as people had in many cases not even attempted to get licences.

With a reasonable increase in productivity, however, Sir David Eccles thought that the figure it would be possible to achieve next year should be £26m. of work a month instead of £25m. as at present.

New Office Holders

AFTER the report for 1953 had been adopted, Mr. R. S. Williams was elected president for 1954, and Mr. Laurence Holloway, Mr. K. C. F. Foster and Mr. W. K. Laing were elected vice-presidents. Mr. D. E. Woodbine Parish was elected hon. treasurer in succession to Mr. Nigel Hannen.

ELECTION OF COUNCIL

The following seven members were elected to the Council: L. H. Colls (Trollope & Colls, Ltd.); A. G. Miles (Hammond & Miles, Ltd.); R. F. Mansell (R. Mansell, Ltd.); R. W. Brocksopp (Buckingham & Sons, Ltd.); F. Luker (Luker, Staff & G. C. Turner); H. Vincent (Leslie & Co., Ltd.) and G. H. Noyes (E. H. Smith (Croydon), Ltd.). Mr. K. F. Simmonds (C. W. B. Simmonds, Ltd.) was elected hon. auditor.

EASTERN FEDERATION

President's Review for 1953

THE four main factors which have a bearing on the industrial outlook—man-power, materials, methods and controls—are examined by MR. P. J. C. WEST, president of the Eastern Federation of Building Trades Employers, in his review for the year 1953, which was presented at the Federation's annual general meeting, held at Cambridge on Tuesday, January 20.

On man-power he says: "During the year there has been a slight easing in the labour position, particularly in the northern part of our Region, and our main concern, and rightly so, has been with the effective training of the personnel of the industry. The comprehensive and smooth-working craft apprenticeship scheme which our industry is proud to possess has tended to divert our attention from the need for thorough training above as well as up to craft level. What our industry really needs is a continuous training scheme from the first year of entry right up to managerial status. There are a variety of bodies catering for some of our present educational needs at the moment, but these do not appear to be animated with the same ideas or activated by the same principles. I feel that the time must come when the education and training side of our industry must be co-ordinated by one main Education Board on which we could have representatives of all branches of building education who would work out overall policy and advise on the main lines of training in the industry."

In the course of an examination of the problems of craft training, Mr. West says: "There is, unfortunately, some evidence of irresponsibility on the part of certain apprentices and their parents in relation to the contract of apprenticeship, and one aspect of this is shown in the fact that despite the covenants in the Deed, close on 10 per cent. of our annual intake is lost through failure to apply for deferment, attend technical classes, etc.

"The work on the training of foremen," he continues, "proceeds slowly but steadily although there is a great need for a quickening of interests in this vital aspect of our training programme. In a Region such as ours with few large centres, training arrangements are difficult to make, but members have taken the opportunity of bringing some of their foremen and supervisors along to Federation lectures arranged in connection with our winter programme."

Wages and Conditions

On the subject of wages and conditions, Mr. West says: "Linked with the need to obtain the right men and train them properly is the need to provide attractive terms of employment. At this time of the year our thoughts automatically turn to impending wage claims, and unfortunately these must be considered against a background of unrest in other industries. On the basis of the cost of living alone there would appear to be even less justification for an increase this year than in previous years. In addition to the advance of 1d. per hour which will be due in February, 1954, as a result of a slight movement in the cost of living index figure, operatives' real wages during the past year have been increased through the introduction of the second week's holiday.

"The accumulated effect of these numerous additions to real wages since the war tends to be forgotten, but we were sharply reminded of the considerable rise in labour overheads between 1939 and 1953 in the figures quoted in the Third Girdwood Report. The employers' side of the industry can have no objection to advances in wages and improvements in conditions provided they are sustained by increased output. Increased wages since 1945 have certainly not brought forth commensurately higher production, and this, as we well know, is one of the major factors in the high cost of building to-day."

Materials

Writing on materials, Mr. West says: "One of the greatest handicaps during the year has been the grave shortage of bricks which undoubtedly has had a serious effect on production and costs. All we can hope is that the Minister of Works' promise of better times will materialise sooner than at present seems possible. We have considered this shortage from several angles—economy in the use of bricks, including alternative methods of construction, and the purchase of supplies from local yards and imports from abroad. On the latter points the difficulty has been almost entirely financial, and certain proposals we put forward to facilitate the use of alternative supplies did not find favour with the Government. From every point of view, economy in the use of all materials is imperative, and the closest attention must be given to the elimination of waste on building sites. The removal of consumer control on softwood is greatly welcomed, although the timing of the announcement from the market point of view might have been better.

"It is most important that we should be on the look-out for new materials, and I would urge members who have successfully experimented in this field to make the results available to their colleagues. In this way interest will grow and experience will be widened."

Controls

Mr. West goes on to say that during 1953 we have seen more controls removed than in any other year since the war. "As far as the main building programme is concerned the Government is limiting the annual rate of house-building to 300,000, and this should permit other essential work such as schools, factories, etc., to have its fair share of the industry's resources. The normal house-building programme will be reinforced by the programme for slum clearance and work on dilapidations, improvements and conversions. The industry is certainly assured of a steady demand for building work from the public authorities. The more problematical fields in private enterprise house-building in which, with the most recent announcement, it will be possible to obtain a licence automatically for a house of up to 1,500 sq. ft., and for builders to build 50 houses at a time up to this size.

"This may be a useful occasion to refer briefly to the progress we are making in building houses for the family with an income of £10 per week. The average house being built privately by members at the moment is semi-detached with a superficial area of some 900 to 950 sq. ft. Costs are generally between 35s. and 40s. per square foot. Charges under the New Streets Act and costly building plots may result in £6 or more per foot frontage for rural land and £10 or more for good urban land. On this basis the average all-in cost may well be in the region of £2,000. There are exceptions to this, but the average price to-day must put home-ownership beyond the reach of a large section of our community.

"The control which we have experienced increasingly this year, and which will have an even greater effect on our work next year, is that exercised by the money in the pocket of the consumer. We sometimes get a little tired of hearing the statement that we are pricing ourselves out of the market, but it is unfortunately all too true. I have already referred to the cost of private enterprise housing, but added to this the prospective home-owner is faced with the problem of finding a substantial deposit on the house he would like to purchase. If private enterprise house-building is to flourish the position must be eased both as regards price and facilities for purchase. I do not, however, regard the future in too pessimistic a light, since the overriding necessity to bring down costs may well provide the mainspring for our activities and drive us forward in our search for greater efficiency."

The Second Week's Holiday, 1954

THE Eastern Federation of Building Trades Employers has decided that, as far as members are concerned, the second week's holiday for operatives this year shall be taken from Monday, December 27, 1954, to Saturday, January 1, 1955. It is pointed out in this connection that for the public holiday due on December 27, 1954 (Boxing Day), the scheme provides that the usual credit shall be paid but no additional day shall be given.

Any local arrangement within the Region for closing for whole or part of Christmas Eve (Friday, December 24) should be discussed where appropriate on the Local Joint Committee.

Building Studentship Scheme

THE EASTERN FEDERATION'S building studentship scheme, which has been devised to put the training of young men entering the management side of the building industry on an acceptable official basis as well as to give a recognised status to trainees, is explained in a booklet issued by the Federation from its headquarters, 95, Tenison-road, Cambridge.

For several years, states the booklet, larger member firms have been training younger men under a special indenture prepared by the Federation. The new scheme takes this a stage further by recommending a scheme of training "which it is hoped will result in a quickening of interest in this vital matter and lead to more entrants in this higher branch of the industry."

It is regarded as essential that the attractions of building as a career should be made widely known to those with a good educational background from public and grammar schools since the systematic training this scheme envisages should in due course lead to well-paid posts with building firms. Provision is also made for the transfer to the administrative side of craft apprentices of outstanding merit up to the age of 17½.

The scheme is only in broad outline since, it is pointed out, detailed training arrangements are necessarily a matter for the builder and his student. By observing these provisions, however, deferment from military service may be applied for, thus ensuring continuity in training.

"One basic problem is the linking of entrants with suitable firms," the booklet states. "In this the Federation will do all in its power to help, and all interested in this scheme from whatever angle who would like assistance or guidance are invited to write to the Director of the Federation."

NEWS IN BRIEF

City Building Surveyor, Liverpool

Liverpool Corporation invite applications by February 19 for the post of City Building Surveyor. Salary £2,250 x £250—£2,750. Details advertised elsewhere in this issue.

Minister's Housing Forecast

Mr. Harold Macmillan, Minister of Housing and Local Government, said at Southampton on January 12 that 320,000 houses were under various stages of construction at the moment, and there was nothing he could see that would prevent about 340,000 or 350,000 houses being completed this year.

Building Abroad

A course of six lectures for architects and builders, entitled "Building Abroad," is to be held at the Hammersmith School of Building and Arts and Crafts, Lime-grove, Shepherd's Bush, W12. The first meeting will be held on February 16, and the series will be conducted by Dr. Rudolph Herz, Dip Arch, Dr Ing (Berlin), ARIBA. Applications must be made to the Secretary of the School not later than February 6.

Ideal Home Exhibition

When the 1954 Daily Mail Ideal Home Exhibition opens at Olympia on March 2, Sir Hugh Casson, MA(Cantab.), FRIBA, will have transformed the Grand Hall "into a version of Arcadia, the idyllic garden of classical mythology." At the end of the Hall will be a grotto representing the source of the springs at which the Sun God (Apollo-Phoebus) watered his horses at dawn. Above the grotto the Sun God will be seen driving his chariot into the sky, and at the opposite end of the hall will be depicted Diana, Goddess of the Moon. There will be 16 horses drawing the chariot, placed 50 ft. above the ground, and they are to be 13 ft. high and 18 ft. long. A team of artists and sculptors are working with Mr. Richard Dendy; and the chief sculptor, Mr. Angelo de Cauchferta, has modelled a full-size torso of Pegasus in expanded aluminium mesh. Over this skeleton is stretched a fine industrial open-weave cloth impregnated with a plastic aeroplane glue. The Sun God's chariot will be a bas-relief some 26 ft. wide, poised 50 ft. above the ground over a playing fountain. A carpet is to be spread the longest continuous stretch, over "Dunlopillo" underlay, supplied by the Dunlop Rubber Co. The main portion of the hall has been designed by Sir Hugh Casson, in association with Robin and Christopher Ironside, to include a display of pergolas, garden alleys and topiary bordering the stands.

The Late Mr. H. R. Backhouse

The death has occurred of Mr. H. R. Backhouse, OBE, chairman and managing director of Mellor Bromley and Co., Ltd., Leicester. Mr. Backhouse died on January 5, 1954, in the Fielding Johnson hospital, Leicester, aged 59.

Public Works in Hong Kong

The annual departmental report by the Director of Public Works, Hong Kong, for the financial year 1952-53, has just been published. During the year under review the Public Works Department, which undertakes all Government building and engineering work in the Colony, carried out work to the value of over $75m. These works are described in some detail in the report.

Railway Freight Charges

The British Transport Commission have made an application to the Minister of Transport for authority to increase their railway freight charges and dock and canal charges at the earliest possible date by 10 per cent., but with a limitation of 10s. per ton in the case of merchandise by freight train and perishable traffic by passenger train. The yield from the proposed increase in railway freight charges is estimated at about £23m. in a full year; from increased dock and canal charges, about £1m. to £2m.

No Houses Completed

At a recent meeting of Ellesmere Port (Wirral) Council it was alleged that thousands of pounds had been paid to housing contractors, but not a single house completed. It was agreed that in the future contracts should bind the builders to hand over a specified number of houses before payment was made. Cllr. J. Roberts said the town had lost £2,700 because they were receiving no rents, and it was stated that the Council now expected to be receiving completed houses at the rate of 30 to 40 a month.

Gatwick Airport

Mr. Harold Macmillan, Minister of Housing and Local Government, has appointed Sir Colin Campbell, OBE, former Town Clerk of Plymouth, to conduct the public local inquiry into objections to the Government's proposals for development of Gatwick Airport. The inquiry will open at the Constitutional Hall, Horley, on March 16, and is expected to last for at least two or three days. Formal notice of the inquiry will be published later, and objectors will be invited to send their objections to the Ministry. Objections should not be sent to the chairman of the inquiry.

Appointment

The Parliamentary Secretary, Ministry of Works, Mr. J. R. Bevins, MP, has appointed Mr. G. T. Travis to be his private secretary in succession to Mr. D. W. Royle.

Annual Report

The 1952-53 annual report of the Metropolitan Water Board has now been issued. Copies may be obtained from the Board's publication agents, Staples Press, Ltd., 14, Great Smith-street, Westminster, SW1, price 5s.

Daywork Charges

Schedules of charges and hire-rates for dayworks, 1954, have now been published, and can be obtained from the London Master Builders' Association, 47, Bedford-square, WC1, price 1s. These schedules are for general application, but have been prepared for particular use with the National Schedule of Daywork Charges.

House Purchase

Discussions are taking place between the Ministry of Housing and Local Government and the Building Societies Association with a view to making it easier for families to buy their own houses. The Ministry states that recent statements that the discussions involved artificially low rates of interest are unfounded, but whether the discussions will result in the cutting of the initial deposit to as low a figure as £75 in some cases, remains to be seen.

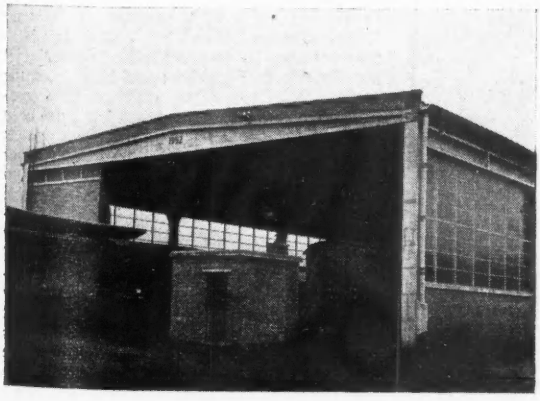
UN Seminar on Housing

Mr. G. A. Atkinson, of the Building Research Station, DSIR, has gone to India to take part, as adviser on building techniques, in the Asian Regional Seminar on Housing and Community Improvement which the United Nations' Technical Assistance Administration has organised at New Delhi from January 21 to February 17. The increasing interest of the BRS in tropical building problems is shown in a display which forms part of the International Exhibition on Low-Cost Housing for South-East Asia, being organised by the Government of India as a background to the seminar. The exhibition opened on January 20.

PERSONAL COLUMN

The address of Mr. J. H. S. Nordberg, technical representative for the Croft Granite, Brick and Concrete Co., Ltd., in the West Midlands, is 363, Chester-road, Castle Bromwich, the telephone number of which is Castle Bromwich 2835, and not as previously stated.

Horsley, Smith and Co. (Hayes), Ltd., of Hayes, Middlesex, have announced the opening on January 25, at Coldstream-terrace, Cardiff (Tel.: Cardiff 29007), of a branch office in charge of Mr. G. H. Wall.



GOODS DEPOT, BURY ST. EDMUNDS

DUE to an increase in the importance of Bury St. Edmunds as a goods handling centre, it was decided in 1951 that a remodelled depot, comprising a new goods shed and new offices, should be constructed at a cost of nearly £70,000. Work on the new shed started in November, 1951, and it was decided to adopt all concrete construction as this worked out rather cheaper than a steel-framed building. The first job to be tackled was the construction *in situ*, and the placing of the reinforced concrete columns to support the new shed roof. In February, 1952, whilst this work continued, the construction of a casting bed for the 78 ft. 12 ton pre-stressed concrete roof beams was started. The first of these was placed in position, using two rail steam cranes, in March, 1952. This roof construction is believed to be the first of its kind anywhere in this country. All other erection, apart from the roof beams, was undertaken by only one steam crane. A start was made on the construction of the new offices in November, 1952. These were completed in November, 1953, and the whole of the new depot was brought into full effective use as from January 1 this year.

KEEPING ACCIDENT RECORDS

Building Safety Group's Talk

THE usefulness of keeping accident records was discussed in a recent talk given by MR. W. R. BATEMAN, vice-chairman of the London Building and Engineering Contractors' Accident Prevention Group. Following is a summary of his remarks:

It is appropriate that we should remind ourselves that our objective as safety officers is to deal with the great variety of causes which lie at the back of all accidents. It follows from this that the more information that we can accumulate and analyse regarding these causes, the better map we have of the whole field of campaign. It is very easy to concern ourselves solely with those accidents which thrust themselves upon our attention by nature of the seriousness of the injury, and forget that those which have caused minor injuries are just as important in getting at the causes.

Like a Military Campaign

I suggest that so long as we do not press the analogy too far, we can usefully compare the safety officer operating from head office with the headquarters in a military campaign. He must have maps of the entire battle front, as well as maps of the various sectors along that front.

First, then, we must have a map of the entire organisation, in terms of statistics which show us where we are making progress and where we are being driven back. Perhaps we have battled especially with some particular hazard over the past six months. Eye injuries perhaps—what does our map show us? Are they still as troublesome as before, or are we gaining ground? Must we change our plan of campaign in that direction, or follow it up with some other form of attack? Or can we afford to divert some of our forces to another part of the front?

We must also have a map of each of the sectors along our battle front. We need to know what causes are giving us especial trouble on any particular contract.

These are our large-scale maps, and it is on these that we depend for guidance in our day-to-day campaigning.

The coding can be reduced to such simplicity that the bulk of it can be done by an office lad. Only the code numbers for the causes have to be filled in by the safety officer himself, to ensure consistency.

What is most important is that the record be written up as frequently as possible. I deal with well over 2,000 injuries—major and minor—per annum, and I do try to ensure that they are summarised every week.

I wasted a great deal of effort by listing all employees to extract details of those who had a considerable number of accidents. Next year I shall only list certain trades where we have more permanency—such as fitters, machine operators, and scaffolders and also key personnel among our carpenters and bricklayers.

Some interesting data emerge from the attempt to keep accident proneness records, but I must confess that my efforts to make use of them have not turned out very well. Usually the fitter who has the worst record is "the best fitter I've ever had," and the possibility that he will lose a finger or a hand in a machine one day is too remote to convince anyone that he should be shifted to another job, least of all the man himself. It is not unusual to find a man having a dozen or more minor injuries in the course of a year.

It is also easy to trace the record over the years of any particular supervisor, but it must, of course, be related to the number of operatives, and worked out on a percentage basis if it is to be used for comparison with the records of other supervisors. Here again, I have not considered that this justified the amount of work.

Standardised Records

When Mr. G. H. A. Hughes, Director of the LMBA, spoke at our last meeting of the possibility of a survey of accident causation, it struck me forcibly that the industry should be in a position to supply him with all the data he needs without a special survey being necessary. I know that the industry cannot do this at present, but now that we have an organisation such as this Group, we should give this question of national records for the industry very serious thought. I would like to see a special sub-committee formed to consider standardising our records so that we can supply useful data to RoSPA.

I do not have in mind any question of comparison as between companies. This is probably neither practicable nor desirable. What I do have in mind is the building up of statistics covering as broad an area as possible, so that we can see from time to time where the industry is going.

RoSPA call for figures regularly each year, but we are handicapped in that they relate their figures to man-hours, and we keep no analysed record of man-hours. Any committee might have to consider using some such basis as average labour strength for arriving at comparative figures. In conclusion, then, we can summarise our reasons for keeping accident records as follows:—

(1) To give us an overall picture of the position in our organisation. (2) To give us a picture of the position—day by day or week by week—at individual contracts. (3) For propaganda purposes.

(4) Accident proneness and similar details. (5) Data for periodical returns to directors, etc. (6) Data for national statistics.

No change in prices of Blockcraft Oak Mosaic Flooring

Future quotations will show no increase despite the inclusion of Purchase Tax.

Blockcraft Flooring Co. Ltd.
Blockcraft House
Sun St., E.C.2. BIS. 4044

TRADE NEWS

Enamelled Cladding

A stoved plastic finish on ¼-in. thick standard "Presdwood" is obtainable in plain or tiled designs from Masonite, Ltd., Bevis Marks House, Bevis Marks, EC3. It can be fixed to either timber grounds or direct to concrete or plaster walls by the use of adhesives. The tiled design is available in either 4-in. or 6-in. square tile impression, in sizes of 6 ft. by 4 ft. only. The plain board is supplied in sizes of either 6 ft. by 4 ft. or 8 ft. by 4 ft. "Enamelled Presdwood" can be obtained in colours of green, cream and white, but any other colours are supplied to special order.

Anniversary Book

A special number of the "S and L Review" has been published by Stewarts and Lloyds, Ltd., 41 Oswald-street, Glasgow, C1, to commemorate the 50th anniversary of the firm. While not purporting to be a comprehensive history of the company, it makes an admirable illustrated commentary on the major events which have occurred within the organisation at home and overseas, and the national and international background against which they have taken place. Dedicated by the chairman, Mr. A. G. Stewart, to all Stewarts and Lloyds' employees past and present, the book contains many excellent maps and illustrations, and has an attractive cover.

Large Lighting Contract

One of the largest orders ever placed for the lighting of a single building, totalling over £70,000, has been received by The General Electric Co., Ltd. It covers hot cathode and cold cathode fluorescent lighting fittings to be installed in the engineering workshops and administrative offices of the new British Overseas Airways Corporation headquarters at London Airport, construction of which has now reached an advanced stage. All the fittings have been specially designed for this installation, and many of the cold cathode units in the engineering workshops will contain eight tubes. The electrical contractors are Messrs. Rashleigh, Phipps and Co., Ltd., and the consulting electrical engineers for the building are Messrs. E. Wingfield, Bowles and Partners. The work is being carried out under the supervision of the Air Ministry Works Directorate.

Jet Problems

A minor problem created by the arrival of the jet plane is the effective jointing of concrete on airfield runways under the new conditions. A satisfactory expansion joint was previously provided by a compound of rubber dissolved in bitumen. This is no longer suitable because not only is the bitumen softened by the fuel spilled from the jet but the effect of the heat and blast from the engines is more serious still. A new composition to meet the situation has now been developed with a special primer from blends of synthetic resin and rubber, with other plastic materials. This is understood to keep elastic both in summer and winter; give positive adhesion to the concrete; and be unaffected by jet fuel. It can be melted at about 150 to 160 deg. centigrade, and poured into the joints without difficulty by the average contracting operative. Its consistency has been safeguarded to give it the correct flow. The product, "Semguard Grade J," is made by Semtex, Ltd., Semtex House, The Broadway, NW9.

The Builder

CURRENT PRICES OF MATERIALS

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intenton that the details given should indicate fair average prices of materials not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. Due to the exceptional circumstances now prevailing it is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	1	5
Pit Sand	"	1	0	5
Washed Sand	"	1	2	3
¾ in. Shingle	"		18	11
¾ in. Broken Brick	"		19	3
Pan Breeze	"		9	6
Fine or Coarse Foamed Slag Aggregate ... 2 yds. of fine and 2.6 yds. of coarse per ton	per ton	2	18	1

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area. 6-ton loads and upwards, site	"	4	15	0
1 to 6 tons, site	"	5	4	0
Ferrocrete Rapid Hardening Cement in 6-ton loads and upwards to site	"	5	3	0
1 to 6 ton do. site	"	5	12	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices				
Red, Buff or Khaki Colorcrete in 6-ton lots	"	6	16	6
Other colours according to colour				
In 4-ton lots from 210s. 3d. to 434s. 3d. per ton.				
White Portland Cement	"	12	15	3
Under 1 ton	per cwt.		15	6
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	6	7	6
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £9 2s. 9d. to £10 16s. 3d. (1-ton loads and upwards).				
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	"	14	0	9
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	"	5	15	0

BRICKS

		£	s.	d.
Full Loads				
First Hard Stocks	per 1,000	11	0	6
Second Hard Stocks	"	10	4	6
Mild Stocks	"	8	13	6
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2⅝ in. Nominal Fletton Bricks to sites in W.C. District Commons	"	5	10	0
Cellular do.	"	5	10	0
Keyed do.	"	5	12	0
Rustics	"	6	15	0
Cellular Rustics	"	6	15	0
Single Bullnose do.	"	6	10	0
Sandfaced	"	7	10	0
Cortex Facing Bricks	"	6	5	0
Best Blue Pressed Staffs (London Stations)	"	23	17	6
Do. Bullnose (London Stations)	"	24	11	6
Blue Wire Cuts (London Stations)	"	21	10	6
Midhurst Lime Bricks (London Sites)	"	9	18	0
Uxbridge Whites (London Sites)	"	8	16	6
2½ in. Best Stourbridge Fire Bricks (London Stations)	"	22	3	0
3 in. do. (London Stations)	"	26	11	6
2⅝ in. Machine-made Sandfaced Red Facings (London Sites)	"	13	9	6
2⅝ in. Machine-made Multi Red Facings (London Sites)	"	13	14	6
2⅝ in. Hand-made Sandfaced Red Facings (London Sites)	"	14	3	6
2⅝ in. Hand-made Sandfaced Multi-Colour Facings (London Sites)	"	14	3	6
2⅝ in. Surrey Clamp Burnt Multi Stock Facings (London Sites)	"	13	2	0
2⅝ in. Surrey Kiln Burnt Multi Stock Facings (London Sites)	per 1,000	13	18	0
Glazed Bricks (London sites), White, Ivory, Brown—				
Stretchers	"	64	0	0
Headers	"	63	0	0
Quoins, Bullnose and 4½ in. Flats	"	80	0	0
Double Stretchers	"	85	0	0
Double Headers	"	77	10	0
One side and two ends	"	87	0	0
Two sides and one end	"	89	10	0
Splays and Squints	"	83	0	0

Second quality — 10% Bests. Cream and Buff £3 extra over White. Other colours, hard glaze. £8 10s. 0d. extra over White.

PARTITION SLABS, etc.

Delivered Central London Area.

HOLLOW CLAY PARTITION BLOCKS (Keyed)	Minimum lorry loads.		
2 in.	140 yds.	per yd. sup.	4 3
2½ in.	140 yds.	"	4 6
3 in.	120 yds.	"	5 0
4 in. (6 cavity)	95 yds.	"	6 7
Half blocks at no extra charge.			
CLINKER CONCRETE.			
2 in.	100 yds.	"	3 6
2½ in.	85 yds.	"	4 1
3 in.	75 yds.	"	4 10
4 in.	55 yds.	"	6 0
CRANHAM			
2 in.		"	6 5
2½ in.		"	7 1
3 in.		"	8 3
4 in.		"	10 2
4½ in. Load bearing quality		"	11 2
FLOOR BLOCKS			
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads		per 1,000	31 10 0
4 in. do.		"	34 13 0
5 in. do.		"	39 7 0
6 in. do.		"	46 16 0
7 in. do.		"	54 1 0
8 in. do.		"	61 15 0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Standard List prices delivered London Area.

	Over 2 tons	Over 100 Pieces under 2 tons	Under 100 Pieces under 2 tons
Best Quality	+67½%	+97½%	+107½%
B.S.S. Best do.	+10% +67½%	+10% +97½%	+10% +107½%
Tested Quality	+37½% +67½%	+37½% +97½%	+37½% +107½%
B.S.S. Tested do.	+47½% +67½%	+47½% +97½%	+47½% +107½%

		£	s.	d.
3 in. Land Drain Pipes (in 12 in. lengths)	per 1,000	9	19	0
4 in. do.	"	13	1	0

STONE

		£	s.	d.
Bath Stone—				
Monks Park	per ft. cube		6	8
St. Aldheim Box Ground	"		7	8
Delivered in railway trucks at South Lambeth B.R. Western Region				
Doulting Stone Random Blocks. Delivered London area	"		7	5
Beer Stone. Delivered London area	"		7	0
Portland Stone—				
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region	"		7	5
Hopton-Wood Stone—				
F.O.R. Quarries, Wirksworth, Derbyshire—				
¾ in. Slabs for wall lining, sawn two sides in random sizes up to 5 ft. and not over 15 ft. super in area	per ft. sup.		6	2
1½ in. Slabs for paving, sawn two sides as above described	"		8	6
Yorkshire Stone—Blue Robin Hood Quality.				
Delivered to site London in 6-ton lots.				
9 in. × 3 in. Rubbed, weathered, throated and stooled cills	per ft. cube	3	1	9
12 in. × 6 in. do. do.	"	2	4	3
12 in. × 3 in. Plain coping, twice throated	"	1	14	0
12 in. × 3 in. Weathered and twice throated coping	"	2	5	6
14 in. × 6 in. do. do.	"	2	1	0
4½ in. × 9 in. Plinth, rubbed on top and face	"	1	16	9
3 in. sawn two sides Slabs, random sizes	per ft. sup.		6	6

STONE—*continued*

		£ s. d.
Templates and Cover Stones, 3 in., 4 in, and 6 in. thick, edges coped for rendered brickwork ...	per ft. cube	1 2 6
Do. do. fair one edge for fair faced brickwork		1 6 9
Hard York—		
12 in. × 2 in. Square Steps, rubbed on top and edge	per ft. run	7 10
14 in. × 3 in. Round-nosed Steps, rubbed on top and front	per ft. cube	2 2 0
12 in. × 6 in. Plain Steps, rubbed top and front ...	,,	1 16 9
2 in. Rubbed and Jointed Paving, given sizes ...	per ft. sup.	7 6
2 in. Sawn Paving, edges squared, in random sizes	per yd. sup.	2 11 9

TILES and PANTILES

Delivered London area by road in 6 tons or over per 1,000

Machine-made Pantiles and French pattern Tiles from Lincolnshire district		28	18	6
Hand-made Pantiles Berkshire district		41	18	6
Hand-made Double Roman Bridgwater district ...		56	17	6
Hand-made 10½ × 6½ tiles Berkshire district		12	15	6
Machine-made 10½ × 6½ Staffordshire district		13	5	0
Hand-made Hip and Valley tiles per doz. ...		1	8	6
Machine-made Hip and Valley tiles do.		1	6	3
Concrete tiles 10½ × 6½		6	18	6
do. Interlocking (49S)		18	9	6

NOTE.—Breakage in transit, purchasers' responsibility

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

24 × 12	100	16	9
22 × 12	86	6	6
22 × 11	78	0	6
20 × 12	73	3	3
20 × 10	68	10	9
18 × 10	50	17	0
18 × 9	43	15	0
16 × 10	42	18	3
16 × 8	33	13	3

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—				
Joinery quality	Ex. Wharf	per standard	£105 to £125	
Carcassing quality	do.	,,	£90 to £100	
1 in. Tongued and Grooved Flooring	do.	,,	£106	0 0
Hardwood—				
Mahogany— African S.E. ...	do.	per ft. cube	1	5 0
do. Honduras do. ...	do.	,,	2	15 0
Oak European do. ...	do.	,,	1	17 6
do. Japanese do. ...	do.	,,	1	15 0
do. English Logs sawn	do.	,,	1	5 0
Teak 8 in. average S.E.	do.	,,	3	0 0
Walnut African Logs sawn	do.	,,	1	1 0

DOORS (in Lots I-II)

Delivered London area.

1⅛ in. 4 Horizontal Panel. Pattern 4 in. deal			
2 ft. 0 in. × 6 ft. 6 in.	each	1	12 0
2 ft. 3 in. × 6 ft. 6 in.	,,	1	13 0
2 ft. 6 in. × 6 ft. 6 in.	,,	1	14 6
2 ft. 9 in. × 6 ft. 6 in.	,,	1	16 9
2 in. do., but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in.	,,	2	10 6
2 ft. 9 in. × 6 ft. 6 in.	,,	2	13 6
2 in. Panel, top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in.	,,	2	3 9
2 ft. 9 in. × 6 ft. 6 in.	,,	2	6 6

SUNDRIES

Delivered London area

1 in. Wood Wool Slabs, 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ...	per yd.	5	8
1½ in. do. (67 yds. to 1 ton)	,,	7	4
2 in. do. (52 yds. to 1 ton)	,,	8	11½
2½ in. do. (45 yds. to 1 ton)	,,	10	3
3 in. do. (39 yds. to 1 ton)	,,	11	5½
Quantities under 1 ton add 1d. per ½ in. of thickness.			
¼ in. imported Insulation Board, quantities over 5,000 sq. ft.	per 100 sq. ft.	2	2 6
¼ in. Hardboard do.	,,	2	3 6
⅜ in. do. do.	,,	3	2 6
½ in. Asbestos Flat Building Sheets	per yd. sup.		2 11
Roofing Felt, 1-ply	,,		1 6
do. 2-ply	,,		1 9
Best Scotch Glue, in slabs	per ½ cwt.	5	0 0
do. pearl	,,	5	5 0
Croid Glue	28 lb.	2	5 0
Cut Nails, 3 in. (1-ton lots)	per ton	54	5 0
do. 4 in. and up (1-ton lots)	,,	50	15 0
Wire Nails, 3 in. (4-cwt. lots)	per cwt.	2	15 9
do. 4 in. and up (4-cwt. lots)	,,	2	12 3

METALS

STEEL JOISTS, ETC.

Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in. 12 in. × 6 in. plain cut to lengths delivered London area	per ton	37	2 6
Extra for sizes			
3 in. × 1½ in.	,,	3	10 0
3 in. × 3 in., 4 in. × 3 in., 5 in. × 2½ in. ...	,,	1	5 0
4 in. × 1¾ in.	,,	3	0 0
4¾ in. × 1¾ in., 24 in. × 7½ in.	,,	2	0 0
5 in. × 3 in., 22 in. × 7 in.	,,	1	0 0

		£ s. d.
6 in. × 3 in.	per ton	1 10 0
9 in. × 7 in.	,,	5 0
10 in. × 4½ in., 12 in. × 5 in.	,,	15 0
5 in. × 4½ in., 6 in. × 4½ in., 7 in. × 3½ in., 7 in. × 4 in., 8 in. × 4 in., 9 in. × 4 in., 10 in. × 5 in., 10 in. × 8 in., 12 in. × 8 in., 13 in. × 5 in., 14 in. × 5½ in., 14 in. × 6 in., 14 in. × 8 in., 15 in. × 5 in., 15 in. × 6 in., 16 in. × 6 in., 16 in. × 8 in., 18 in. × 6 in., 18 in. × 7 in., 18 in. × 8 in., 20 in. × 6½ in., 20 in. × 7½ in.	,,	10 0
Steel angles average price	,,	38 7 6
Steel tees average price	,,	39 7 6
Fabricated work delivered London—		
R.S. Joists cut and fitted	,,	51 15 0
Compound girders	,,	57 0 0
Stanchions	,,	62 0 0
Compound stanchions	,,	65 0 0
In Roof Work—Trusses and Purlins	,,	77 0 0
Average prices not for awkward work.		
Mild Steel Ferro-Concrete bars to BSS785 ex London		
Stock ⅝ in. diam., and upwards	,,	37 1 6
¼ in. diam.	per ton extra	3 12 0
⅜ in. do.	,,	2 17 0
⅛ in. do.	,,	2 2 0
¼ in. do.	,,	1 7 0

MILD STEEL TUBES

Tubes to BSS1387 and Fittings. List prices and following discounts:

Galvanised Tube—	W.I. Fittings	Malleable Fittings
Class A — 33⅓%		
Class B + 5⅓%	Light +20⅓%	Malleable List — 39½%+35%
Class C + 21¼%	Heavy +27¾%	
Black—		
Class A — 23⅓%		
Class B — 13⅓%	Light + 8⅓%	Malleable List — 39½%
Class C — 1¼%	Heavy + 16⅔%	

C.I. HALF-ROUND GUTTERS

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	3/1	2/9	/10
3½ in.	3/4½	3/-	/10
4 in.	4/4	3/4	1/2
4½ in.	4/9	3/8	1/5
5 in.	5/4	4/1	1/7

C.I.O.G. GUTTERS

3 in.	4/-	3/7	/11
3½ in.	4/5½	3/7	1/2
4 in.	4/10½	3/8	1/6
4½ in.	5/4	4/4	1/8
5 in.	5/9½	4/11	1/11

C.I. RAIN-WATER PIPES

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	6/4	3/4	4/9
2½ in.	6/7	3/8	6/7
3 in.	7/5	4/8	7/1
3½ in.	8/4½	5/7	8/5
4 in.	9/8½	6/9	9/11

L.C.C. COATED SOIL PIPES

2 in.	7/5½	5/9	7/-
2½ in.	7/10½	6/4	8/8
3 in.	8/10	7/-	10/5
3½ in.	9/11	8/8	12/1
4 in.	11/3½	9/9	14/3

Above prices for gutters rain-water and soil pipes for under 3 cwt. lot only. Lots over 3 cwt. see List No. 3200 dated May 1, 1952, plus 7½% and tonnage allowance. 4-ton lots 5 per cent. 2-ton lots 2½ per cent.

L.C.C. COATED DRAIN PIPES

In 9-fts.

	cwt.	qr.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	20/1	13/10	24/5
6 in.	2	0	1	29 10	28/10	49/11

ASBESTOS RAIN-WATER PIPES AND FITTINGS

Orders under £30 less 12½ per cent. discount.
Orders over £30 less 17½ per cent. discount.

		2 in.	2½ in.	3 in.	4 in.
Pipes 6/ft. lengths	per yd.	3/6	3/9	4/6	6/-
Shoes	each	2/3	2/6	3/-	4/-
Single Branches ...	,,	3/6	4/3	5/-	7/-
Bends square or obtuse	,,	2/6	2/9	3/6	5/-
Swan Necks 4½ in. proj.	,,	2/9	3/6	4/-	5/6
do. 6 in. do.	,,	3/-	3/6	4/6	6/-

ASBESTOS O.G. GUTTERS AND FITTINGS

		4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths	per yd.	3/3	3/7	4/3	5/2
Drop ends ...	each	2/3	2/4	2/7	3/3
Stop Ends... ...	,,	/9	/10	/11	1/1
Angles and nozzles	,,	2/8	3/1	3/7	4/3
Union Clips ...	,,	1/4	1/7	1/11	2/3

ASBESTOS HALF-ROUND GUTTERS AND FITTINGS

		3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths	per yd.	2/4	2/9	2/10	3/4	4/8
Drop ends ...	each	2/-	2/3	2/6	2/9	4/-
Stop ends ...	,,	/8	/9	/10	/11	1/1
Angles	,,	2/3	2/6	2/9	3/-	4/-
Nozzles	,,	2/-	2/3	2/6	2/9	4/-
Union Clips ...	,,	/11	1/-	1/1	1/3	1/10

METALS—*Continued.*

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	39 10 0
Mild Steel Bars	37 8 0
Mild Steel Hoops	38 3 0

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft sheets C.R. and C.A.—	
20 gauge	45 12 6
24 gauge	46 17 6
26 gauge	48 17 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	52 17 0
24 gauge	54 17 0
26 gauge	57 12 0
Galvanised Flat sheets C.R. and C.A.—	
20 gauge	53 17 0
24 gauge	55 17 0
26 gauge	58 12 0

Metal Windows.—Standard Metal Windows, B.S. 940. Prices on application British Metal Window Manufacturers' Association, Ltd.

Plumbers' Brass Work, Copper, Zinc, etc.

Delivered in London area.

All per doz.	M.O.H. ½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	70/-	104/-				
Toilet bib cocks for iron	90/-	129/-				
Screw down stop cocks for iron	60/-	87/-	171/-	294/-	420/-	741/-
do. with two unions for lead	81/-	120/-	213/-	381/-	504/-	1122/-
Double nut boiler screws	15/-	21/-	38/-	39/-	54/-	76/-
Heavy Croydon ball valves	62/-	141/-	216/-	394/-	558/-	
Plumbers' union brass lead to iron	15/9	19/-	31/6	55/-	67/9	132/-
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	27/-	33/-	48/-	75/-	96/-	125/-
Brass sleeves		25/-	25/-	45/-	60/-	61/-
	1½ × 6 lb.	1½ × 6 lb.		2 × 7 lb.	3 × 7 lb.	
Lead P. trap with brass cleaning screws	60/-	75/-		120/-	205/-	
Lead S. trap do.	72/6	90/-		147/6	265/-	

Solder	s. d.
Plumbers' per lb.	3 0
Tinmen's „	3 7
Blow pipe „	3 9

Copper tubes BSS 659/1944 on the basic price of 26d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.		Total per lb. d.
¼ in. × 19 gauge	11⅝		37⅝
⅜ in. × 19 „	10⅜	„ „	36⅜
1 in. × 18 „	8⅜	„ „	34⅜
1¼ in. × 18 „	8⅛	„ „	34⅛
1½ in. × 18 „	8⅛	„ „	34⅛
2 in. × 17 „	9⅜	„ „	35⅝

		£ s. d.
Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras	per ton	279 10 0
Sheet Zinc, 10 gauge, 5 cwt. lots upwards	per cwt.	6 13 0
do. 12 gauge do.	„	6 11 0
Brass tubes basic price, plus gauge and manufacturing extras	per lb.	1 9⅞

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	121 5 0
Lead Water Pipe in coils	„	122 10 0
Lead Soil Pipe, 10 ft. or over 2 in. to 4 in. dia.	„	124 0 0
do. over 4 in. dia.	„	126 0 0
Lead Gas or Untinned Compo pipe	„	124 0 0
Extras over Basis for quantities under 1 ton		
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	„	4 0
1 cwt. do. 3 cwt.	„	6 0

Smaller quantities than 1 cwt. priced specially.

Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.

Allowance for Old Lead, collected £83 15s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	7 3 3
do. White do. do.	„	7 11 0
Sirapite Coarse do. do.	„	7 6 3
do. Fine do. do.	„	7 14 3
Blue Lias Lime in 6 ton loads	„	6 5 0
Hydrated Lime do.	„	5 9 0
Lump Lime do.	„	4 18 6
White Keen's or Parian Cement in 1-ton loads	„	10 0 9
Pink Keen's or Parian Cement in 1-ton loads	„	9 15 6
Granite Chips in 6-ton loads	„	2 6 3
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site	per yd.	2 3
Gypsum Plaster Wall Boards, 3 and 4 ft. wide, 6 to 12 ft., ⅜ in. thick, 600 yds. and over in one delivery Delivered site	„	2 6

PAINT AND DISTEMPER

Delivered London area.

		£ s. d.
Ceiling Distemper	per cwt.	1 12 0
Washable Distemper	„	5 12 0
Gloss Paint	per gal.	2 15 0
Snowcem cement paint (in 1 cwt. drums)	per cwt.	3 11 0
Lead Products and Oils.		
Ground White Lead 5 cwt. casks	per cwt.	6 13 0
1 cwt. kegs	„	8 2 9
Genuine White Lead Paint, 20 gal. lots in 1 gal. tins	per gal.	2 18 0
Genuine Red Lead, Dry, 1 cwt. keg	per cwt.	6 9 9
Genuine Linseed Oil Putty, 1 cwt. keg	„	2 9 0
Size XD quality, 28 lb.	per tin	9 0
Raw Linseed Oil (5 gal.) Drums extra	per gal.	13 3
Boiled Linseed Oil (5 gal.) do.	„	13 8
Sundries		
Turpentine substitute (5 gal.) Drums extra	„	5 6½
do. do. (40 gal. drum) do.	„	4 9
Solignum, Brown (5 gal. cans), Exterior	„	6 6
Creosote (40 gal. barrels)	„	2 0
Paste Powder (1 lb. packets)	per lb.	1 6
White Lining Paper	per piece	1 4

VARNISHES, etc.

Delivered London area.

		£ s. d.
Oak Varnish, Outside or Inside	per gal.	1 12 6
Oak Pale Copal do.	„	1 15 0
Hard Drying Oak for Inside	„	1 17 6
Crystal Paper Varnish do.	„	1 15 0
Eggshell Flat Varnish do.	„	2 2 6
Finest Carriage Varnish	„	2 10 0
Front Door Varnish	„	1 17 6
Japan Gold Size	„	1 10 0
Black Japan	„	1 5 0
Brunswick Black	„	1 0 0
Berlin Black	„	1 5 0
Terebene	„	1 5 0
Knotting (1 gal. bottles free)	„	2 0 0
French and Brush Polish (do.)	„	1 13 0

GLASS

Delivered London area.

	Per ft. super s. d.
18 oz. Sheet Glass, Ordinary Glazing Quality. Cut Sizes	5½
24 oz. „ „ „ „ „ „ „	7½
26 oz. „ „ „ „ „ „ „	9½
32 oz. „ „ „ „ „ „ „	1 0
⅛ in. Rolled Plate	9
3/16 in. and ¼ in. Rough Cast	1 0
⅛ in. Figured Rolled and Cathedral, Standard patterns : White	9
do. Standard Tints	1 4½
do. Special Tints	2 9
⅛ in. Cross Flexon, Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating	1 1
¼ in. Wired Cast	1 2
¼ in. Georgian Wired Cast	1 2½

Hollow Glass Blocks—	Each £ s. d.
P.B.2 5¾ × 5¾ × 3⅞ in.	2 9
P.B.3 7¾ × 7¾ × 3⅞ in.	4 2
P.B.32 7¾ × 7¾ × 3⅞ in.	4 2
Radiused Corner Blocks to match up with—	
P.B.2	5 3
P.B.3	6 9
P.B.32	6 9

	Per ft. super s. d.
⅛ in. Polished Plate Glass, G.G. Quality— In plates not exceeding 2 ft. sup.	3 7
„ „ „ „ 5 ft. sup.	4 5
„ „ „ „ 45 ft. sup.	5 1
„ „ „ „ 100 ft. sup.	5 6

¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 96 in. high or 160 in. wide. G.G. quality—

	£ s. d.
Not exceeding 135 ft. sup. or 250 in. one way or 135 in. both ways	8 4
Not exceeding 180 ft. sup., or ditto	11 3
Not exceeding 200 ft. sup., or ditto.	16 0

Plates exceeding 200 ft. sup., prices on application.

Substances other than ¼ in. Polished Plate at Special Prices

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity.	Per ft. super. s. d.
18 oz. sheet O.Q.	3,000	4
24 oz. „ „ „ „ „	2,000	5½
26 oz. „ „ „ „ „	2,000	7½
32 oz. „ „ „ „ „	2,000	9½
⅛ in. Rolled Plate	1,000	7½
⅛ in. Figured Rolled and Cathedral Standard Patterns, White	1,000	7½
⅛ in. Cross Flexon, Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte	1,000	10½
3/16 in. and ¼ in. Rolled Plate or Rough Cast	2,000	10½
¼ in. Wired Cast, Hexagonal	2,000	1 0½
¼ in. Georgian Wired Cast	2,000	1 0½

The Builder

CURRENT RATES OF WAGES

AS FROM FEBRUARY 2, 1953. **(Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)**

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1	A2	A3
Craftsmen	3/6½	3/6	3/5½	3/5
Labourers	3/1	3/0½	3/0	2/11½

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Aldeburgh	A2
Aldershot District	A2
Alfreton U.D.	A
Alnwick	A1
Altrincham	A
Amble	A1
Amersham	A1
Ammanford	A
Andover	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashby-de-la-Zouch U.D.	A
Ashby Woulds U.D.	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone R.D. (parts of)	A
Aylesbury	A2
Aylesby (Yorks)	A
Aylesham	A2
Bagshot	A2
Bakewell U.D.	A2
Banbury	A2
Barnard Castle U.D.	A
Barnoldswick U.D.	A1
Barnsley	A
Barrow-in-Furness	A
Barrow-upon-Soar R.D. (exc. Thrussington A2)	A
Barry	A
Basford R.D. (exc. Willough-by-on-the-Wolds A2)	A
Basingstoke	A1
Bath	A
Batley	A
Baxterley	A1
Beaconsfield & District	A1
Beamish	A
Bearl	A
Bearpark	A
Beccles	A2
Bedale R.D.	A
Bedford	A
Bedlington	A
Bedwas	A
Beeston & Stapleford U.D.	A
Belper U.D.	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick District	A
Beverley	A
Bexhill-on-Sea	A2
Biggleswade	A2
Billericay	A
Billing	A
Billingham U.D.	A
Bilsthorpe	A
Birchington	A2
Birkenhead	*
Birmingham C.B.	†A
Bishop Auckland	A
Bishop's Stortford	A
Bispham	A
Blackburn	A
Blackpool	A
Blackwell R.D.	A
Blaydon U.D.	A
Blidworth	A
Blyth	A
Bognor Regis	A2
Boldon U.D.	A
Bolsover U.D.	A
Bolton	A
Bourne End	A1
Bournemouth District	A
Bracknell	A2
Bradford	A
Bradford-on-Avon	A2
Braintree	A1
Breconshire, County of...	‡A2
Brent Knoll	A2
Brentwood	A
Bridlington	A
Brierfield	A
Brighouse	A
Brighton	A
Bristol	A
Broadstairs	A2
Bromsgrove U.D.	A
Brough	A
Broughton (Cheshire)	A
Buckley	A
Bungay	A2
Burnham-on-Crouch	A2
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Calder Valley	A
Cambridge	A
Cannock U.D.	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A
Carmarthenshire, Cnty of	‡A2
Carnarvonshire, Cnty. of	‡A3
Carnforth	A
Castleford	A
Caterham	A
Chapel-en-le-Frith	A
Charmy Down	A
Chatham & District	A1
Cheadle (Staffs) R.D.	A
Chelmsford	A
Cheltenham	A
Chepstow	A1
Chertsey	A
Chester	A
Chesterfield M.B.	A
Chesterfield R.D.	A
Chester-le-Street U.D.	A
Chichester	A2
Chippenham (inc. Chippen-ham Within and Harden-huish	A2
Chorley	A
Clacton	A1
Cleethorpes	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville U.D.	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett	A
Conway	A1
Cornwall, County of	‡A2
Coventry C.B.	A
Cranbrook	A2
Cranleigh	A2
Crawley (Sussex)	A2
Crewe	A
Cromer	A1
Crowborough	A2
Cuckfield	A2
Dalton-in-Furness	A
Darlington District	A
Darwen	A
Deal	A2
Denbigh Town	A2
Derby C.B.	A
Devizes	A2
Devon, County of	‡A2
Dewsbury	A
Didcot	A2
Diss	A2
Doncaster C.B.	A
Dorking	A
Dorset, County of (except-ing Poole, Swanage and Wimborne A1)	A2
Dover	A2
Dovercourt	A
Driffield U.D.	A1
Droitwich M.B.	A1
Dudley M.B.	A
Dunstable	A
Durham City	A
Eastbourne	A1
E. Glam. & Mon. Val.	A
East Grinstead District	A2
Eastwood (Notts.) U.D.	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A2
Epping	A
Exeter	A
Fakenham	A2
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey U.D.	A
Fleetwood	A
Flint	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough U.D.	A
Gateshead	A
Gillingham (Kent)	A1
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole M.B.	A
Gosport	A
Grantham M.B.	A
Gravesend	A
Great Yarmouth	A
Grimsby C.B. & R.D.(part)	A
Grimsby R.D. (remainder)	A2
Guildford District	A2
Guilsborough	A1
Guiseley	A
Halesowen M.B.	A
Halifax	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate	A
Hartlepool	A
Harwich	A
Haslemere	A2
Hastings	A2
Hatfield (Herts.)	A
Haywards Heath	A2
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham U.D.	A
Heysham	A
High Wycombe	A1
Highworth	A2
Hinckley U.D.	A
Hitchin	A
Hoddesdon	A
Horley	A2
Horsham	A2
Horwich	A
Huddersfield	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkley	A
Ingatestone	A1
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Jarrow M.B.	A
Keighley	A
Kendal	A
Kenilworth U.D.	A
Kettering M.B.	A
Keynsham	A
Kidderminster M.B.	A
King's Lynn	A1
Kingskerswell	A1
Kingsteignton	A1
Kirkham	A
Knaresborough U.D.	A
Knowle	A1
Lancaster	A
Leamington M. B.	A
Leatherhead	A
Leeds	A
Leicester C.B.	A
Leighton Buzzard	A1
Letchworth	A1
Lewes	A2
Lichfield M.B.	A
Lincoln C.B.	A
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly	A
London	*
Long Eaton	A
Loughborough M.B.	A
Louth M.B.	§A1
Lowestoft	A
Loxton	A2
Luton	A
Lyneham (Devon)	A2
Macclesfield	A
Maidenhead	A1
Maidstone	A1
Maltby	A
Maldon (Essex)	A1
Malvern U.D.	A1
Manchester	A
Manningtree	A1
Mansfield M.B.	A
March	A2
Margate	A2
Market Harborough U.D.	A
Maryport	A
Matlock U.D.	A1
Melksham	A2
Melton Constable	A2
Melton Mowbray U.D.	A1
Merthyr	A
Middlesbrough	A
Middleton	A
Middlewich	A
Milford Haven	A1
Morecambe	A
Morley	A
Mundesley	A2
Nantwich	A
Nelson	A
Newark-on-Trent R.D.	A1
Newbury	A2
Newcastle-on-Tyne	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A2
Newton Abbot	A1
Northallerton Dist.	A
Northampton C.B.	A
North Shields	A
Norton Radstock	A1
Norwich	A
Nottingham C.B.	A
Nuneaton M.B.	A
Oakham U.D.	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett and Horbury	A
Oxford	A
Oxted	A1
Paignton	A1
Peterborough	A
,, Soke	A1
Pickering	A3
Plymouth	A
Pontefract	A
Pontypridd District	A
Portishead	A
Portland Stoneyards	A
Portsmouth	A
Port Talbot	A
Preston	A
Pudsey	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Rayleigh	A
Reading	A
Redcar B.	A
Redditch U.D.	A
Redhill and Reigate	A
Ripon	A3
Rochdale	A
Rochester	A1
Rotherham	A
Rugby M.B.	A
Saffron Walden	A2
St. Albans	A
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sawbridgeworth	A
Saxmundham	A2
Scarborough	A
Scunthorpe	A
Selby	A
Sevenoaks	A1
Sheerness	A2
Sheffield	A
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury M.B.	A
Sittingbourne	A2
Skegness U.D.	A1
Skipton U.D.	A
Sleaford U.D.	A2
Slough	A1
Smethwick C.B.	†A
Snettisham	A2
Somerset, County of	‡A2
Southampton	A
Southend-on-Sea Dist.	A
Southport	A
South Shields C.B.	A
Spalding U.D.	A2
Stafford M.B.	A
Staines	A
Stamford M.B.	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton R.D.	A
Stockton-on-Tees	A
Stoke-on-Trent C.B.	A
Stoke Orchard	A1
Stourbridge M.B.	A
Stourport U.D.	A
Stowmarket	A1
Stratford-on-Avon M.B.	§A
Sunderland District	A
Sunningdale	A1
Sutton Coldfield M.B.	A
Swaffham	A2
Swanage	A1
Swansea	A
Swindon	A1
Swinton U.D.	A
Tamworth M.B.	A
Tenterden	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A2
Thorpe Bay	A
Thurrock U.D.C. Area	A
,, North of, to Billericay	A
Tilbury	A
Todmorden	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A2
Tunbridge Wells	A1
Tynemouth C.B.	A
Uppingham (Salop)	A1
Uttoxeter U.D.	A2
Wakefield	A
Wallsend B.	A
Walsall C.B.	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick M.B.	A
Wellington U.D.	A
Wells (Norfolk)	A2
Welwyn	A
Welwyn Gar. City	A
West Bromwich C.B.	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth	A1
Whitby U.D.	A1
Whitstable and District	A2
Wickford	A
Widnes	A
Wigan	A
Wigton	A2
Willington	A
Wilmslow	A
Wilts. County of	‡A2
Winchester	A1
Windermere	A3
Windsor and Eton	A1
Wisbech	A2
Witham	A1
Woking (District)	A
Wokingham	A2
Wolverhampton C.B.	A
Woodbridge	A2
Worcester C.B.	A
Workington	A
Worksop M.B.	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A2
York	A

* For Birkenhead, Liverpool and London the rates are:—Craftsmen, 3s. 8d.; Labourers, 3s. 2½d. In the case of London the rate beyond the 12-mile radius is:—Craftsmen, 3s. 7½d. Labourers, 3s. 2d. † Plus 2d. per working day. ‡ This is the County rate and applies except where higher grades are stated. § Regraded as from October 5, 1953.

NOTE.—Carpenters, Joiners and Plumbers in all towns and districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 2s. 7d. per hour. Women introduced to carry out work other than craft processes, 2s. 3d. per hour.

For Building Trade Wages in Scotland see page 200

OVERSEAS BUILDING

[From Our Own Correspondents]

Belgian Congo.—An agreement valid for ten years has been signed between "Agrifor," a well-known company in the Belgian Congo, and the US Plywood Corporation for the construction of a factory for production of special plywoods. Under the terms of the agreement the Americans are to finance half the plant and take over all plywood produced during the period of the agreement.

Work has been started on a new hydro-electric power station at Piana-Mwanga, on the Rivera Luvua, near Manono, in the Katanga. The station will consist of three groups of 10,000 h.p. each, and is expected to be in operation by the end of 1955. The dam already built for the present power station at Piana-Mwanga will be used.

The President of the Board of the Office des Cités Africaines has stated officially that no more prefabricated houses will be imported, as houses can be built locally much cheaper. The Office is now concentrating on building one- and two-storey houses, using cement blocks produced in the locality.

Brazil.—Klabin Brothers, who already operate a big paper mill in the South of Brazil, have recently signed a contract with a US firm for the building of a factory to produce daily 50 tons of pulp.

The Brazilian Government is also drawing up plans for the development of the food industry which entails the building of factories throughout the country.

Tenders have been opened until the middle of April for the building of 11 silos in Rio Grande, Porto Allegre, Erechim, Passo Fundo, Carasinho, Santa Barbara do Sul, Cruz Alta, Julio de Castilhos, Cacoeira do Sul, Bento Concalves and Bage. The silo for Rio Grande will have a 20,000 tons capacity; the ones for Porto Allegre and Erechim will have a capacity of 10,000 tons; and the others will have a 5,000 tons capacity. Steel and reinforced concrete will be used in construction.

Denmark.—Plans are well in hand for the establishment in Fredericia, Jutland (Denmark), of a factory for producing cellulose from straw. The factory is being sponsored by the Jutland and Funen Farmers' Co-operative and it is believed that a British firm has an interest in the project. About £½m. is being set aside for the task.

A factory for the production of steel wool is to be set up in Varde. This will be the first factory of its kind in Denmark.

A number of brickworks are to be built in order to fill the gap created by the great demand in the country.

Egypt. — Egypt's National Production Council has invited international tenders for the establishment of a new paper factory. Offers are expected to include for the provision of newsprint, of which Egypt imports about 15,000 tons yearly.

It is announced that the Council of Ministers have approved an agreement negotiated with the Egyptian Hotels Company for the rebuilding of the Shepheards Hotel, which was destroyed during the riots. This will be on a site in Garden City, near the company's Semiramis Hotel, and not on the old site in the city.

The establishment of a new industrial enterprise, the Société Egyptienne des Fonderies et Industries Refractaires has been announced. This company is expected to launch a building programme in the near future.

The authorities propose to construct a dry-dock and shipyard at Alexandria. It is learned indirectly from port officials that US offers to construct a dry-dock and an Italian offer to construct a shipyard have been received. The offers, it is understood, take into consideration a profit-sharing clause in exchange for financial and technical assistance.

A fairly ambitious housing programme is to be started in Alexandria. It is proposed to construct houses for poor people in the area south of Glymenopoulo, provided that, as it seems likely, the Government will advance £1¼m. towards the project.

The Irrigations Department is about to begin the very interesting work of re-utilising the old Roman wells which exist along the Mediterranean coast from Alexandria to Sollum. Large-scale reclamation work is also to be undertaken in the Eastern Desert in Sinai, where projects are under discussion for the resettlement and rehabilitation of refugees.

Holland. — The Rotterdam Municipal Council has now approved a plan for the construction of a third petroleum harbour. The cost is estimated at 21m. guilders, and the harbour will be one of the largest in Holland. The installation of the new harbour will cope with the growing volume of imports of petroleum, which have increased nearly five times since 1938.

Hong Kong.—Although the existing Tsan Yuk Maternity Hospital is in good structural condition, it is too small for present-day requirements and it has been found impossible to increase the accommodation on the present site. It is therefore to be rebuilt on a site in Sai Ying Pun, and the new hospital will provide for 200 beds with staff quarters. Mr. Eric Cumine, AADip, FRIBA, has been appointed architect and considerable progress has been made on the working drawings. In order to clear the site for the new hospital it will be necessary to demolish the existing social services centre and to provide alternative accommodation. It has been decided, therefore, to erect a building within King George V memorial park, for immediate use as a social services centre, but so planned that it may be economically converted at a later date into a club house and pavilion for boys and girls using the park. Mr. Eric Cumine has been appointed architect and is preparing working drawings.

EDW. STUART & CO.
FLOORING CONTRACTORS
LINO, CORK & P.V.C. TILES
THERMO PLASTIC TILES
WOOD BLOCK, PARQUET
ASPHALT, TERRAZZO,
ETC., ETC.
FLOORS RESURFACED
AND POLISHED
Expert advice given without obligation
Dept. B, 8, HOLBEIN PLACE
SLOANE SQUARE, LONDON, S.W.1
Tel. No.: SLO. 4021/4065

FULL-SCALE BUILDING RESEARCH TRIALS

National Federation's Proposals

AT the Research Conference organised by the National Federation in March, 1953, Sir Ben Lockspeiser, Secretary of the Department of Scientific and Industrial Research, spoke of the need for full-scale trials under working conditions which was frequently experienced in connection with the development of research work. He suggested that the NFBTE might be able to arrange facilities for much more systematic and broadly based trials than was possible at present. Steps to give practical effect to this suggestion were considered at a meeting of the Federation's building research and technical information committee held at the Building Research Station, at Garston, in December.

At this meeting a possible scheme in which building firms could co-operate with the Building Research Station in determining the practicability of new materials or processes under actual working conditions was outlined by officers of the Station. The committee expressed themselves wholeheartedly in favour of the idea and a small sub-committee was appointed to work out the details of the scheme, to select members of the Federation who would be both able and willing to carry out the experiments, and to act as liaison between the Building Research Station and the individual member during the actual course of the experiments.

The following have been suggested as possible subjects for full-scale trials:—

1. Air-entrained mortars for rendering.
2. Zinc oxychloride treatments for walls infected with dry rot.
3. Lime-tar damp-proof course for solid ground floors.
4. Various methods of reducing deterioration of domestic boiler flues, to be adopted during repair of existing flues or construction of new ones.
5. Methods of renovating old houses:—
   (a) Plastering and decorating on damp walls;
   (b) Other matters as they arise.
6. The construction of houses of unrendered lightweight concrete blocks.

Experiments on each of these matters have already been carried to an advanced stage at the Building Research Station, and certain practical points of detail remain to be investigated. It is intended that the list should be expanded from time to time as circumstances permit and that builders should themselves suggest new items arising out of their practical experiences. The results of each experiment will be made generally available.

The NFBTE Council has given its approval to the arrangements described, and the Building Research and Technical Information Committee has been asked to proceed with the scheme.

British Trade Fair, Baghdad

The newly incorporated company, British Overseas Fairs, Ltd., set up in October, 1953, by the Federation of British Industries to promote Trade Fairs abroad, announce their important first venture: a British Trade Fair to be held in the Arabian desert, five minutes' walk from the centre of the city. One million square feet of waste land is being transformed from a wilderness into the site for a modern, commercial exhibition.

The SCOTTISH BUILDER

Labour-Saving Hospital

THE first complete Scottish hospital to be erected since the end of the war, at Alexandria, embraces a number of labour-saving and time-saving features in the layout. Foreign hospital methods and layout were studied to ensure that the ultimate project would have maximum flexibility of function and minimum distance of travel for staff and patients. Time and motion principles were applied to hospital routines and answers worked out on the basis of the data provided by these various studies.

The new hospital is on the unit principle in which one or more standard units of 100 ft. by 40 ft. are used for each department. Each unit has a clear internal floor span which permits division internally.

The design involves a central corridor three storeys in height, linking dual wing wards. The ground floor corridor is for general communication; the first floor corridor for food service. The central hall is the heart of the plan and is so located that it connects to all sections in such a way that no part of the hospital is more than 300 ft. distant. This will allow a major economy in time, labour and trouble in the handling of all hospital traffic, which will have the minimum travel distance irrespective of ultimate destination.

The ward layout has been given equally careful study and is composed of subdivisions which create a variety of bed number wards within the ward. A nurses' station is located centrally so that the duty nurse can inspect visually from her own central point practically every part of the ward. There are six standard ward units in the hospital, each taking 26 beds with an emergency capacity of 280. The kitchens have been so organised that in an emergency they could handle 600, while other services are similarly organised to meet the possibility of any emergency.

Work is well advanced and it is hoped to open officially the new hospital within the next four months.

Joint Committee's Elections

THE FOLLOWING new office-bearers of the Joint Standing Committee of Architects, Surveyors and Building Contractors in Scotland were elected at the quarterly meeting in Edinburgh:—

Chairman Mr. T. Waller Marwick, architect, St. Colme-street, Edinburgh. Vice-chairman, Mr. John W. Train, president of the Scottish National Building Trades Federation (Employers), Glasgow. Secretary, Mr. Philip R. Rathbone, 7, Manor-place, Edinburgh.

Scots to Visit Marseilles

GLASGOW CORPORATION has approved a decision to send a deputation to Marseilles to study the Le Corbusier multi-storey flats in that town. The convenor, Mr. James Duncan, with the City Architect, Mr. A. G. Jury, will be responsible for this survey and will be accompanied by the convenor of the Town Planning Committee, Mr. John S. Clark. The multi-storey flats to be inspected accommodate 300 houses to the block of 17 storeys, with a population of some 1,500.

The Corporation has decided to make large-scale clearances of slum property in the Hutchestown, Gorbals, Govan and Royston areas of the city and to replace the tenants there in new multi-storey buildings on the same sites. The city has also been active in experimenting with multi-storey construction in Moss Heights. At this meeting Glasgow Housing Committee approved the erection of 1,000 houses at a cost of £1,799,000. These are of the Lawrence Crosswall type and will be erected at Drumchapel and Castlemilk. The work will be undertaken by the five contractors now engaged on this type of construction at Drumchapel. They are John Lawrence (Glasgow), Ltd., James Crawford and Sons Ltd., A. A. Stuart and Sons (Glasgow), Ltd., and Mactaggart and Mickel, Ltd.

Model Building By-laws

FIFTY-TWO British Standards and British Standard Codes of Practice are referred to in the text of the new model building by-laws which have been issued by the Department of Health for Scotland, whilst in the appendix to these by-laws a total of 173 British Standards and British Standard Codes of practice are listed as likely to be appropriate to the requirements of the by-laws, although even this list is not necessarily exhaustive of all the BS that might be relied upon.

When the Ministry of Housing and Local Government issued its model by-laws for application to public authorities in England, 75 British Standards and British Standard Codes of Practice were listed and the British Standards Institution decided to supply these at a substantial discount when the whole set was ordered. The Institution is similarly prepared to supply the 52 British Standards and British Standard Codes of Practice referred to in the Scottish By-laws at a special price of £5 a set, as against a list price of £9 3s., and the more comprehensive set referred to in the appendix to the model by-laws at a special price of 18 guineas as against a list figure of £29 14s.

Subscribing members of the Institution will, however, get the additional discounts to which they are entitled off these special prices.

Orders for the sets of British Standards and British Standard Codes of Practice should be sent to the BSI, 2, Park-street, London, W1.

STIC B

for brick exteriors or interiors, new or old cement

STIC B
PAINT SALES LTD.
47 Whitehall, London, S.W.1
Telephone: WHitehall 9958

SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from February 2, 1953. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen, 3s. 6½d.; Labourers, 3s. 1d.

For apprentices, the rates are:

Year.	Percentage of Craftsman's rate.	For week of 44 hours.
		s. d.
1st	25	38 11½
2nd	33⅓	51 11½
3rd	50	77 11
4th	66⅔	103 10½
5th	75	116 10½

For female labour, the rates are:

	s.	d.
Operatives on craft operations (at end of probationary period)	3	1
Operatives on labouring operations (at end of probationary period)	2	9½

Bricks from Slag

MESSRS. Colvilles, Ltd., have laid down a commercial brickmaking plant at their Clyde Iron Works to utilise blast furnace slag. Work already done has proved that good common building bricks can be produced commercially from this material, and the intention is now to expand the initial pilot works on a commercial scale.

Messrs. Herbert Alexander, Ltd., are building the plant which will involve one press in the initial stages; design of the premises is such that four presses can be accommodated in the area. Steam curing using autoclaves is to be adopted, and one large autoclave has been constructed to handle the initial output. Here again the expansion of the plant is visualised by the addition of a second autoclave. This policy will allow processing in eight hours, making it possible to produce bricks from raw material to finished article in one day. The new plant is designed to work on a basis of 97½ per cent. slag to 2½ per cent. lime, and productive capacity is rated conservatively at 1,600 per hour.

Sample bricks have been tested by the Building Research authorities, and will be put into practical use by the group in its own construction. After this initial period of test and inspection, commercial large-scale production for general use is intended. In addition to a common brick, it is hoped to produce a facing brick, probably in a range of colours.

NEW BUILDINGS

Glasgow.—Corporation to acquire ground at Anniesland, and Ryvra-rd. for the erection thereon of Anniesland's new fire station. Plans will be prepared by James MacMillan Riddet, City Engineer, Municipal-bldgs., George-sq., Glasgow.

Glasgow.—Plans prepared for alterations and additions for D & A. Haddow, Ltd., at 1061 to 1083, Shettleston-rd., Parkhead. The architects are Weddel & Thomson (F&A), 216, Bath-st., Glasgow.

Glasgow.—Corporation to erect, during 1954, 8,000 houses for which plans will be prepared by Archibald G. Jury (F), Housing Architect's Offices, Glasgow Cross, Glasgow.

Glasgow.—Plans prepared for alterations and additions at 101 to 105, Sauchiehall-st. for which the architects are Boots Pure Drugs Co., Ltd. (Staff), Station-st., Nottingham.

Glasgow.—Plans prepared for alterations and additions for R. D. Waddle, Ltd., Napierhall-st., Great Western-rd., for which the architects are Frank Burnet, Boston & Bell (F&A), 18, Hope-st., Glasgow.

Glasgow.—Plans prepared for new church halls to be erected at Balarnock housing site for which the architect is Harry Taylor, Church of Scotland Offices, George-st., Edinburgh.

Glenrothes.—Development Corporation's Chief Architect has prepared working drawings for the first combined block of shops, offices and houses for the new town's centre. Schedules of quantities are being prepared for issue to contractors for tendering. The Corporation's quantity surveyors are preparing schedules for a proposed new secondary school at Auchmuty for Fife County Council Education Committee. It is proposed to go to tender at an early date.

Kilmarnock.—Corporation to erect at Dean-st. housing site 4 shops and 17 houses, est. to cost £39,000. The architect is N. S. Sutherland, FIAA&S, and the quantity surveyor, W. N. MacColl, AMICE, Master of Works Offices, Municipal-bldgs., Kilmarnock.

Lanarkshire.—Plans in hand for new Congregational church halls to be erected for the West Church Congregational Board on a West End Bellshill site. The architect is William Baird, 147, Main-st., Bellshill.

Lanarkshire.—Plans in the hands of their own architects for new houses to be erected at the Newbiggins farm housing site, Carnwath, by the Lee and Carnwath Estates, Ltd., Carnwath.

The Builder

FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JANUARY 25.

*†**Blackburn CBC.**—Pumping station, Guide reservoir. BE. Dep. £2 2s.

JANUARY 27.

*†**Gateshead CBC.**—Infants' dept., Leam-la. school, Wrekenton. BS. Dep. £5 5s. Tenders by February 24.

*†**Oxford City C.**—New secondary modern school, Northway estate, New Marston. City A.

JANUARY 28.

*†**Northumberland CC.**—Child welfare centre, Whitley Bay. County A, Newcastle-upon-Tyne, 1.

*Surrey CC.—First stage new County prim. sch., Bonner Hill, Kingston. County A, Kingston-on-Thames.

*†**Surrey CC.**—Extensions, Portley House Special school, Caterham. County A, Kingston-on-Thames.

*†**Surrey CC.**—County secondary school, Esher. County A, Kingston-on-Thames.

*†**Surrey CC.**—Clinic, Grand-dr., Morden. County A, Kingston-on-Thames.

*†**Surrey CC.**—Clinic, Stonecot Hill, Sutton. County A, Kingston-on-Thames.

Torrington RDC.—Erection of two houses at Shebbear and four at Petrockstowe. Phillip D. Friend, Council's A, 5a, Joy-st., Barnstaple. Dep. £3 3s.

JANUARY 29.

*†**Isle of Ely CC.**—New wing, The Orchards nursery, Wisbech. County A, March. Tenders by February 22. Dep. £2 2s.

*†**Plymouth City C.**—Dining hall and scullery, Sutton High School for Boys, Regent-st. City A, Seymour-rd. Dep. £3 3s. Tenders by February 15.

*†**Sutton & Cheam BC.**—Public convenience, Cheam-rd. Car Park, Sutton. BE&S. Dep. £2 2s. Tenders by February 19.

JANUARY 30.

*†**Bristol City C.**—Two canteen sculleries, Air Balloon Hill schools, St. George. City A. Dep. £1 1s. Tenders by February 15.

*†**Essex CC.**—Staff cottage, Nazeing Park Special School. H. Conolly (F), County A, Chelmsford.

*†**South Western Reg. Hosp. Board.**—54-bedded Unit, Moorhaven Hospital, Ivybridge. Regional Architect, 27, Tyndall Park-rd., Bristol, 8. Dep. £2 2s.

FEBRUARY 1.

*Blackburn CB.—Repair works, Town Hall. BE. Dep. £1.

*Hampstead BC.—Seven houses, Kemplay-rd., NW3. TC.

*†**Holland CC.**—Secondary modern school, Kirton. County A, Boston, Lincs.

*†**Leyton BC.**—Eight dressing rooms and café, Lea Bridge-rd., Leyton, E10. BE&S. Dep. £2.

*Northumberland CC.—New wing, Nicholas Garrow Home for the Blind, Hepscott Manor, Morpeth. County A, Newcastle-upon-Tyne. Dep. £2 2s.

*West Riding CC.—Conveniences, Knottingley C of E school. Divisional A, Bishopgarth, Westfield-rd., Wakefield. Dep. £1 1s.

FEBRUARY 3.

Ilkeston BC.—50 dwellings on Kirk Hallam housing estate. BE&S. Dep. £2 2s.

*†**Isle of Ely CC.**—New girls' high school, Downham-rd. schools site, Ely. County A, March. Dep. £4 4s. Tenders by February 26.

FEBRUARY 5.

*Esher UDC.—Garage accommodation between streets, Cobham. E&S. Dep. £1 1s.

FEBRUARY 6.

*†**Portsmouth City.**—40 flats and maisonettes, Hanover and Havant-sts. P. McG. Corsar (A), Westminster Bank-chbrs., 103, Commercial-rd. Dep. £3 3s.

Wakefield RDC.—Erection of 18 houses on three sites. E&S, Council Offices, 18, St. John's North, Wakefield.

FEBRUARY 8.

*St. Marylebone BC.—Panel of contractors for erection of small block of flats. Housing Director, 128/134, Baker-st., W1.

*†**Southwark Diocesan Board of Education.**—Erection first portion of Bishop Simpson secondary school, Carlton-rd., Reigate. Slater, Uren & Pike, architects, 29, Gower-st., WC1.

FEBRUARY 9.

*Salford City C.—Two additional classrooms, Tootal-dr. school. City E. Dep. £1 1s.

FEBRUARY 10.

*Burton upon Trent CBC.—New Grammar school. BS. Dep. £3 3s. Tenders by March 19.

FEBRUARY 11.

*Bootle CBC.—New county (mixed) sec. mod. sch., Glovers-la., Netherton. BS. Dep. £2 2s.

*Caterham & Warlingham UDC.—14 houses, Hamsey Green estate, Warlingham. E&S. Dep. £2 2s.

Pontypool RDC.—Erection of (1) six traditional houses in Lamb-la., Ponthir, nr. Caerleon, and/or (2) eight traditional houses, with a small sewage disposal works, at Gwehelog, nr. Usk. Thomas and Morgan and Partners, architects, 23, Gelliwastad-rd., Pontypridd. Dep. £3 3s.

FEBRUARY 12.

*Bexley BC.—74 dwellings, Wickham-st./Chaucer-rd., Welling. BE&S, West Lodge, Broadway, Bexleyheath. Dep. £5 5s.

FEBRUARY 15.

*†**Ipswich CBC.**—Chantry Infants' School, Aster-rd. Johns & Slater (F/A), 32, Foundation-st. Dep. £2 2s. Tenders by March 9.

*†**Ipswich CBC.**—Extensions to Northgate Grammar School for Boys. Johns & Slater (F/A), 32, Foundation-st. Dep. £2 2s. Tenders by March 9.

*Rochdale CBC.—Canteen, Ann-st., for St. John's RC School. BS.

*Sheffield City.—144 dwellings, Greenhill estate. J. L. Womersley (A), City A. Dep. £2.

*Stepney BC.—Six flats and six maisonettes, Aphas-st. BE&S. 227-233, Commercial-rd., E1. Dep. £5 5s.

*Tonbridge UDC.—Conveniences, Priory-rd. E&S. Dep. £3 3s.

*Woking UDC.—34 houses, Barnsbury Farm estate. H. P. Tame, E&S. Dep. £2 2s.

*Wokingham RDC.—36 dwellings, Pennfields estate, Ruscombe. Eric G. V. Hives (L), 3, Cork-st., Reading. Dep. £2 2s.

FEBRUARY 20.

*Penge UDC.—34 dwellings. E&S. Dep. £2 2s.

FEBRUARY 22.

Buckfastleigh UDC.—12 houses at Tweenaways. Grant and Green, F/A.RIBA, 10, High-st., Totnes. Dep. £2 2s.

*East Riding CC.—Ambulance station, Pocklington. County A, Beverley. Dep. £2.

*Preston CBC.—Alterations at Deepdale Cty. prim. sch. BE&S. Dep. £2 2s.

FEBRUARY 23.

*Merioneth CC.—Secondary school, Harlech. Richards and Trollope (F&L), 14, Sackville-st., London, W1. Dep. £3 3s.

FEBRUARY 25.

*Croydon CBC.—Kitchen and dining hall, Coloma School, Tavistock-rd. Chief Education Officer, Katherine-st. Dep. £1.

MARCH 1.

*Birmingham City.—Two two-storey houses, Bromford-la., Erdington, and 4 two-storey flats, Shaftnoar-la., Hall Green. A. G. Sheppard Fidler, City A. Dep. £2 2s. each.

*Lindsey CC.—First instalment of secondary modern school, High Holme-rd., Louth. County A, Lincoln.

*Lindsey CC.—First instalment of secondary modern school, Humberstone-rd., Cleethorpes, County A, Lincoln.

*Stevenage Dev. Corpn.—Applications from Building Contractors for invitation to tender for building contracts of £50,000 and over to be started during 1954. Chief Admin. Officer, Aston House, near Stevenage.

MARCH 3.

*Wallasey CBC.—Secondary technical school, Mosslands-drive. Boro' A. Dep. £2 2s.

MARCH 6.

*Lindsey CC.—Fire and ambulance station, Gainsborough. County A, Lincoln.

MARCH 8.

*East Riding CC.—School, Brough, and headmaster's and caretaker's houses. County A, Beverley. Dep. £2.

MARCH 11.

*Doncaster CB.—Secondary modern school for boys, Hills-la., Wheatley. Boro A, 15, South-par. Dep. £3 3s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

FEBRUARY 1.

*Hornchurch UDC.—Demolition 14, Abbs Cross-gdns. S. Dep. £2 2s.

*North Cotswold RDC.—Laying approx. 738 sq. yds. wood block floors. H. G. A. Knight, Clerk, Council Offices, Moreton-in-Marsh, Glos.

*West Riding CC.—Improvements to swimming baths and installation of plant, Todmorden Shade School. Divisional A, Bishopgarth, Westfield-rd., Wakefield.

FEBRUARY 3.

Dewsbury CBC.—BE (Materials).
Southwark MBC.—TC (Materials).
Whitworth UDC.—E&S (Materials).

FEBRUARY 4.

St. Marylebone BC.—TC (Materials).

FEBRUARY 6.

Andover BC.—BS (Materials).

*†Leeds Reg. Hosp. Board.—(a) Heating and ventilation services and (b) electrical services, Hull Royal Infirmary, Sutton-upon-Hull. Architect to the Board, Park Parade, Harrogate. Dep. £2 2s. each. Tenders by March 10.

Mitcham BC.—BE&S (Materials).

FEBRUARY 8.

Hereford TC.—City S (Materials).
Manchester TC.—City S (Materials).
Warrington CBC.—BE&S (Materials).

FEBRUARY 9.
Cannock UDC.—E&S (Materials).

FEBRUARY 12.
Stamford BC.—TC (Materials).

FEBRUARY 20.
Whitchurch UDC.—E&S (Materials).

MARCH 4.
***Preston CBC.**—Heating installation, Ashton I County Sec. sch. BE&S. Dep. £2 2s.
***Preston CBC.**—Electrical installation, Ashton I County Sec. sch. BE&S. Dep. £2 2s.

ROADS, SEWERAGE AND WATER WORKS

FEBRUARY 8.
Edmonton BC.—Advance preparation of housing site for 300 houses. BE&S, Town Hall, N9. Dep. £3 3s.

FEBRUARY 10.
Clevedon UDC.—Completion of King's-rd. E&S, Council House, Clevedon. Dep. £2 2s.

FEBRUARY 12.
East Shropshire Water Board.—About 2,600 lin. yds. asbestos cement water mains. A. Waters, MICE, 25, Temple-row, Birmingham, 2. Dep. £3 3s.

FEBRUARY 13.
Rugby RDC.—Laying of approx. 7½ miles of water mains at Wolvey, Burton Hastings and Copston Magna. J. D and D. M. Watson, MM.ICE, 18, Queen Anne's Gate, Westminster, SW1. Dep. £10 10s.

FEBRUARY 15.
***Epsom and Ewell BC.**—Pavilion, Ewell Court recreation ground, Poole-rd., West Ewell. BE&S. Dep. £2 2s.

FEBRUARY 16.
Wellington (Salop) UDC.—Sections 1 and 2 of sewerage and sewage disposal schemes at Admaston. E&S. Dep. £2 2s.

FEBRUARY 18.
Longridge UDC.—Construction of approx. 1 mile of trunk sewer (15 in. to 33 in.) with manholes and other ancillary works. E. Council Offices, Longridge, Preston, Lancs. Dep. £3 3s.

FEBRUARY 20.
Bakewell RDC.—Laying of about 14½ miles asbestos cement pipes, etc., south of River Lathkill, contract No. 3; about 15½ miles asbestos cement and spun-iron pipes, etc., in Blackwell, Chelmorton, Flagg, Hartington Middle Quarter, Monyash and Taddington. Brady and Partington, engineers, Market-st., Chapel-en-le-Frith. Dep. £10 each contract.

GENERAL BUILDING WORK

(LONDON)

Elstree. — HOUSING DEVELOPMENT. — RDC has approved a scheme submitted by John Laing & Son, Ltd., Mill Hill, NW7, for the erection of 74 houses, 28 flats, five old people's bungalows and 12 garages on land between Masefield-ave. and Tennison-ave, Boreham Wood.

Elstree.—HOUSES.—A scheme providing for the erection of 48 houses at Deacons Hill estate has been submitted by McManus (Developments), Ltd., 111, High-rd., N20. RDC has given its approval.

Hammersmith.—WAREHOUSE EXTENSIONS.—Smallware (Textiles) Manufacturing Co., Ltd., haye received a £10,000 licence for further extensions to their warehouse building at No. 17, Galena-rd., W6. The architects for the scheme are Eric Firmin & Ptnrs., FRIBA, 10, Manchester-sq., W1, and the contractors for the first stage were Percy Bilton, Ltd., 113, Park-st., W1.

Hammersmith.—FACTORY EXTENSIONS.—E.N.V. Engineering Co., Ltd., propose the erection of an extension to their factory at Hythe-rd., NW10, at estimated cost of £50,000.

Islington.—APPOINTMENT.—Hsg. Com. recommend the appointment of E. C. P. Monson, AA.RIBA, Finsbury Pavement House, 120, Moorgate, EC2, as the architects, and O. E. Parratt, FRICS, Adelaide House, London Bridge, EC4, as the quantity surveyor in connection with small council schemes on land occupied by temporary bungalows. These include proposals for 14 dwellings at Fieldway-cres., and 15 dwellings at Tollington Park (adjacent to Sedgley House).

Islington.—BEERHOUSE.—New premises for "The Independent" Beerhouse at No. 65, Bingfield-st. are to be incorporated in Block "A" of the further redevelopment of Naish-court. The estimated cost of constructing the shell is £12,250, and the brewers concerned are Whitbread & Co., Ltd., Chiswell-st., EC1.

Islington.—SITE ACQUISITION.—To enable a further stage of development to take place at Rotherfield-court, Hsg. Com. recommend the acquisition of the following sites: Nos. 25-35 (odd), Elizabeth-ave. and Nos. 70-80 (even), Rotherfield-st. (for Block C, 48 flats); Nos. 180-194a (even), Downham-rd.; Nos. 58-68 (even), Rotherfield-st. and No. 22 and 22a, Elizabeth-ave. (for Block D, 36 flats). Hsg. Com. also recommend the appointment of E. C. P. Monson, AA.RIBA, Finsbury Pavement House, 120, Moorgate, EC2, as the architects, and O. E. Parratt, FRICS, Adelaide House, London Bridge, EC4, as the quantity surveyor in connection with the scheme.

Islington.—FLATS.—MBC are recommended to purchase land forming the sites of Nos. 11-17 (odd), St. Paul's-rd. from the Oriel Property Trust, Ltd. It is anticipated that 20 permanent dwellings could be erected on the sites after removal of four existing temporary bungalows.

Lambeth.—FACTORY.—A £46,000 licence for the erection of a single-storey factory and attached two-storey block of showroom, offices and canteen at Nos. 2-28, Foxley-rd. and Nos. 52-58, Camberwell New-rd., SW9, has been given to Brixton Estates, Ltd. The architects for the scheme are Lewis Solomon, Son and Joseph, FF.RIBA, 21, Bloomsbury-way, WC1.

Lambeth.—FACTORY.—Ernest W. Banfield & Son, AA.RIBA, 28, Mortimer-st., W1, are the architects for a scheme providing for the erection of a factory at the rear of Nos. 126-128, Brixton-rd., SW2, at an estimated cost of £37,000.

Lambeth.—EXTENSIONS TO PREMISES.—A scheme for the extension and alteration of the premises of William Briggs & Sons, Ltd., roofing contractors, 29a, Vauxhall-gr., is being prepared by George Coles, FRIBA, 40, Craven-st., WC2. Estimated cost of the scheme is £7,500.

St. Marylebone.—ALTERATIONS TO PREMISES.—Plans are being prepared by C. H. Elsom, ARIBA, 44, Catherine-pl., SW1, for alterations to premises at No. 72, Wigmore-st., W1. The quantity surveyor for the scheme is J. C. Corder, ARICS, 355, Chelsea Cloisters, SW3.

St. Marylebone.—SITE ACQUISITION.—BC are to purchase for housing purposes the site of Nos. 147-165, Lisson-gr., NW8, and also the Abercorn-pl./Violet Hill site.

(PROVINCIAL)

Abergele.—Proposal to build 160 houses within Gwrych Castle Park, submitted to UDC. Leslie T. Salt, owner of castle.

Accrington.—CoE Auths. propose erection of sec. mod. sch., £140,000 est.

Ashton-in-Makerfield.—UDC received allocation of 100 houses for 1954 programme.

Barrow-in-Furness.—BC seek Min. approval for extensions to central library, £22,000 est.—Approved revised plans for extensions at Rock Lea Home, £12,535 est.—Received approval to layout for Abbotsmead housing estate.

Biddulph.—UDC propose eight shops with flats over at Park-la. estate.

Birmingham.—EC appointed Wood, Kendrick & Williams, 57, Colmore-row, Birmingham, as architect for proposed Hilary-gr. prim. jun. & inf. sch.; and Cecil Fillmore, Waterloo House, Waterloo-st., for Lordswood tech. sch., Hagley-rd.

Blyth.—TC considering redevelopment scheme for Coomassie-rd. and Crofton area, involving erection of about 260 dwellings, including provision of eight-storey flats. BE, D. W. Foster.

Bradfield.—RDC propose compulsory purchase order in respect of land at Calcot, off Bath-rd., to build 44 houses.

Cauldon (Staffs).—Associated Portland Cement Manufacturers propose erection of cement works.

Chester.—TC propose new abattoir at Bumpers-la.

Chester-le-Street.—RDC to start building of 200 houses at Pelton, 100 of which to be for NCB. Architect, F. Bowman, Birtley.

Church.—UDC propose 12 flats at Buckingham-gr. site.

Consett.—UDC urging erection of larger post office to serve the area.—Council approved plans by Cty. A, Court-la., Durham, for new sch. in Snow Green-rd., and also 12 police houses in Medomsley-rd., etc.—Council considering erection of old people's bungalows in Steel-st., Consett.—Council approved plans for shops at Moorside, and estimates to be considered for carrying out work by direct labour.—MoW to acquire site between Gibson-st. and John-st., Consett, for erection of telephone exchange and engineering garage.

Darlington.—EC approved sketch plans for proposed Arthur Pease prim. sch. at junction of Abbey-rd. and Carmel-rd. North. Plans by Boro' A, E. A. Tornbohm.

Darlington.—RDC plan to build 30 houses this year. Plans by S. J. R. Collins.

Dudley.—TC to invite tenders shortly for erection of Simms-la. sec. mod. sch.—Seek approval expenditure £10,000 for completion of bus stn.—Approved layout by Joseph Webb, Ltd., Ivy House-la., Coseley, for erection of 170 houses at Sledmore estate (contract 7).

Durham.—City C to build 16 bungalows at Gilesgate. City E, J. W. Green, Town Hall, Durham.

Durham.—RDC considering provision of shops at Sherburn New Village. Council's A, J. F. Willis.

Durham.—City C to press MOH&LG for definite starting date with the building of crematorium.

Felling (Co. Durham).—Felling Zinc Oxide Co., Ltd., to erect canteen and laboratory in Tyne-st. Plans prepared by Fennell & Co., Bridge End-chbrs., Chester-le-Street, Co. Durham.

Fleetwood.—BC propose alterations at Marine Hall. Architects, MacKeith, Dickinson & Partners, Blackpool.

Garstang.—RDC propose 12 houses at Hambleton, 12 at Gt. Eccleston, and 12 at Stalmine.

Gateshead.—TC agreed to hand over to Felling UDC 118½ acres of land at Wardley for development as satellite town for housing Gateshead's overspill population. Houses for 8,470 people will be built.

Halifax.—TC approved erection of two-storey block of shops at George-st., £19,000 est.

Hampshire.—County permission granted for erection of new factory and alterations to existing workshop for Gush & Dent, Ltd., New Farm-rd., Alresford.

Harrogate.—TC propose to build 40 bungalows for old people, and to erect 14 houses.

Hartlepool.—L. G. Mouchel & Partners, 38, Victoria-st., SW1, are consultants for civil engineering work in connection with proposed £150,000 extensions to Pallister Works of Steetley Magnesite Co., Ltd. It is understood contracts for plant have been let, but civil engineering contract still undecided.

Hebburn-on-Tyne.—UDC plan to clear about 2,000 houses in old part of town. Plans by S.

Hertford.—Hubert C. Leach, Ltd., of High-st., Waltham Cross, have submitted proposals for developing land abutting on Fordwich-rise and Welwyn-rd. to build some 58 houses.

Hinckley.—Housing and TP Com. agreed to seek approval of MOH&LG to erection of further 34 houses on Sketchley Hill estate.

Irthlingborough.—UDC received allocation of 30 houses for 1954 programme.

Kidderminster.—TC to prepare layout for 600 houses at Habberley estate.

Kirkham.—UDC seek Min. approval for commencement of 47 houses at Freckleton estate.

Leeds.—TC appointed Rex Procter, 15, Blenheim-ter., as quantity surveyor for erection of Elmet Residential sch., and adaptations to Little Theatre, Cookridge-st.

Liverpool.—TC to prepare plans for multi-storey car-park, including shops, at Tithebarn-st. Plans by City A, Dr. R. Bradbury, Blackburn-chbrs., Dale-st.

Manchester.—TC approved erection of health centre at Hall-la., Baguley, £79,750 est.; new conveniences at Piccadilly, £31,000 est.; health centre at Woodhouse Park, Wythenshawe, £44,745 est. City A, L. C. Howitt.

Meriden.—RDC propose erection of six houses at Maxstoke No. 2 site. Future schemes provide for eight at Bickenhill, 200/250 at Coleshill, 100 at Meriden, six at Packington, 32 at Shustoke, and 50 at Water Orton.

Middlesbrough.—TC proposing start in spring with 100 houses at Park End. Plans by BS, J. Kenyon.

Middlesbrough.—TC considering sites for construc-

"THE BUILDER" PRICES

LEAD PAINTS

Associated Lead Manufacturers, Ltd., have announced that, under the White Lead Convention, the following revised prices came into force at 8 a.m., January 20:—

Genuine dry white lead

1 *cwt.*	½ *cwt.*	¼ *cwt.*	14 *lb.*	7 *lb.*
s. d.	s. d.	s. d.	s. d.	s. d.
149 6	79 9	42 6	23 9	13 6

Genuine ground white lead

1 *cwt.*	½ *cwt.*	¼ *cwt.*	14 *lb.*	7 *lb.*
s. d.	s. d.	s. d.	s. d.	s. d.
154 0	82 0	45 9	25 6	14 3

Genuine ready mixed white lead paint: No change.

BRASS AND COPPER TUBES

The Brass and Copper Tube Association has announced the following revised basis prices, effective as from midnight, January 19:—

	Increased by per lb.	*Basic price per lb.*
Copper tubes	¼d.	25¼d.
Brass tubes	¼d.	21¼d.
Brazed brass tubes ..	¼d.	33d.
Drawn brass strip sections	¼d.	31¼d.
Copper-nickel tubes 70/30	¼d.	34¼d.

The basis price for brass tubes applies to both round and shaped solid drawn tubes.

DOHM
VERMICULITE
FOR
LIGHTWEIGHT INSULATION
ROOF SCREEDS
FLOOR SCREEDS
PLASTERING (THERMAL & ACOUSTIC)
LOOSE FILLING
also
PRE-CAST PARTITION BLOCKS
SUSPENDED CEILING PANELS
PRE-CAST STEEL CLADDING
DOHM LTD.
167, VICTORIA ST., LONDON, S.W.1
VIC. 1414-5-6 & 7913

tion of civil defence rescue-training set containing simulated bomb damage buildings, cost about £10,000. BE. J. A. Kenyon.

Newark.—RDC approved erection of 165 houses at Winthorpe, for Air Min.

Newcastle-on-Tyne.—Gibson Readymixed Concrete, Ltd., and its associated firm of F. Gibson & Co. (Newcastle), Ltd., public works contractors, Haddricks Mill-rd., Gosforth, negotiating for site at West Moor on which to erect new works.

Newcastle-on-Tyne.—City C received loan sanction £35,244 for works required for stage two of Slatyford-la. transport depot scheme.

Newcastle-on-Tyne.—C. A. Parsons & Co., Ltd., Shields-rd., to construct new erection and testing bay at their works.

Northampton.—RDC propose 150 traditional and 50 non-traditional houses in 1954 programme.

Northumberland.—Welfare Com. to build home for old people at Blyth instead of at Tweedmouth as previously decided, and have acquired site. Another home to be built at Wallsend. Plans by Cty. A, C. C. Brown, County Hall, Newcastle-on-Tyne.

Northumberland.—CC to let contract for erection of home for eight children at Coanwood-dr., Cramlington. Plans by Cty. A, County Hall, Newcastle-on-Tyne.

Northumberland.—EC approved final plans for proposed Longbenton (Unit No. 4) cty. mod. sch., estimated cost £164,000. Cty. A, C. C. Brown, County Hall, Newcastle-on-Tyne, and quantity surveyors, J. W. Summers & Partners, 33, Jesmond-rd., Newcastle.

Oldham.—RC Authorities propose new sec. sch. at Holts estate, to commence 1954.

Ormskirk.—BC received allocation of 40 houses for 1954 programme.

Oswestry.—TC to negotiate tender for erection of 74 houses at Middleton-rd. estate.

Otley.—UDC approved plans for new fire stn. at Bondgate for West Riding CC.

Peterlee (Co. Durham).—It is hoped to proceed soon with plan for clothing factory at Peterlee, for Alexandre, Ltd. Scheme still in early stages. Architect, J. H. Napper, Eldon-pl., Newcastle-on-Tyne.

Prudhoe (Northumberland).—UDC to proceed with erection of nine bungalows at Mickley.

Redditch.—UDC approved amended plans from Mitchells & Butlers, Ltd., for erection of licensed premises at Batchley estate.

Rotherham.—RDC propose seven shops at Egerton-rd. estate, Aston.

Rotherham.—BC approved plans: 20 houses at Warren-dr., for H. Foers; assembly- and dining-hall at rear of 61/3, Broom-rd., for G. A. Butcher; 92 houses at Sheepcote-rd. and Lathe-rd., for Sir Osbert Sitwell; conversion of dwelling-house into shop premises at 14/15, Vicarage-la., for Central Warehouse Co.; extensions to toilets at Clifton-la. nursing home, for Rotherham Medical and Surgical Home, Ltd.

Rowley Regis.—Mr. William Adams, 10, Wyldecres., on behalf of New Testament Organisation, propose new church at Fatherless Barn estate. Work mainly by direct labour.

Runcorn.—RDC to erect following houses in 1954 programme: 48 at Cobbs Quarry estate, Appleton; 54 at Frodsham; 12 at Kingsley; and six at Reedgate-la., Antrobus.

Sheffield.—City A to prepare plans for erection of four-storey superimposed maisonettes at Greenhill/Bradway estate.—TC to lease site at Stradbroke-dr./Smelterwood-cres., to John Smith's Tadcaster Brewery, Ltd., for new licensed premises; site at Harborough-ave., to Duncan Gilmour, Ltd., for new licensed premises.

Smethwick.—TC approved scheme for extensions to Council House; plans for extensions at Holly Lodge girls' sch., £78,750 est.

Smethwick.—TC approved plans for extensions to factory at Albert-st., for H. Richards & Sons, Ltd.

South Bank-on-Tees.—Dorman Long & Co., Ltd., Middlesbrough, granted £199,874 building licence for additions to No. 6 cogging mill at South Bank Cleveland Works.

Southport.—EC received approval for new high sch. for girls in 1954 programme.

South Shields.—T. R. Dowson & Co., ship repairers, Tyne Dock, to extend workshop and office block. Plans being prepared by R. Collins, Russell-bldgs., King-st.—T. A. Page, Son & Hill, 75, King-st., appointed architects for proposed RC sec. mod. sch.

Stockport.—Erection of new police headquarters near town hall, for BC. Architect, G. Bullimore, Lloyds Bank-chbrs., Great Underbank, Stockport.

Stockton-on-Tees.—RDC propose to build eight houses at Hart. Plans by S, G. W. T. Brown, RDC Offices, Stockton-on-Tees.

Stockton-on-Tees.—EC protesting to Durham CC against exclusion of Roseworth prim. sch. from 1954-55 building programme.

Stourbridge.—TC approved plans for sch. at "Oakdene," Norton-rd., for Mrs. L. Harper; rebuilding of Britannia Inn, High-st., Wollaston, for Bents Brewery Co., Ltd.

Sunderland.—Highways Com. approved plans for erection of 48 houses at Grindon estate, bounded on west by Grindon-la. If decision confirmed by TC building will begin at end of this month.

Sutton Coldfield.—TC approved plans by S for additional office accommodation at Council House.

Tynemouth.—Corp. will invite tenders shortly for 220 houses on Chirton Grange North estate. Plans by BS, D. H. O'herlihy.

Wakefield.—RDC to negotiate with T. W. Newton, for erection of 22 houses at Woolley, and 10 at Newton.—Tenders to be invited for 10 at Middletown and eight at Kirkthorpe.

Wallasey.—BC received approval for cty. sec. sch. at Mosslands-dr.

Wellingborough.—UDC recommended to approve erection of 834 houses on land off Northampton-rd., including 342 houses and flats on Gillitt's land (35 acres); 218 houses on Sanders' land (21 acres); and 274 houses and flats on 28½ acres of allotments. Part of site to be earmarked for private development.—TP Com. approved application by W. Pearce & Co. (Northampton), Ltd., to erect buildings for light industrial use in Leighton-pl.

Willington Quay-on-Tyne.—Clelands (Successors), Ltd., shipbuilders, received sanction to close two lanes to enable them to carry out extensions to their yard and works on 1½ acres site. Final plans not prepared. Managing director, K. F. Craggs.

Worcester.—City C approved plans for erection of two-storey ambulance stn. in Powick-la., est. cost £27,000. Scheme submitted to Min. for approval in principle.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Amport.—Repairing and waterproofing Nissen huts at Amport, nr. Andover, Hants: *Beric, Ltd., 131, Bargates, Christchurch, Hants.

Barnsley.—Erection of a new sec. sch. at the Athersley estate, for EC: *Vernon Dunk, Ltd., 12, Grafton-st., Barnsley.

Barrow-in-Furness.—44 flats at Leah-la., for BC: *Direct Labour.

Blyth.—Construction of a crematorium at Blyth, for TC, at a cost of £11,000: *Direct Labour.

Camberwell.—Erection of 12 flats and 55 garages on the Denmark-hill housing estate, for BC: *Wates, Ltd., £39,644 (subject to MOH&LG approval).

Carlisle.—Work for City C:—100 Easiform houses at Harraby estate: *J. Laing & Son, Ltd. 42 traditional type houses at Harraby estate: *J. Laing & Son, Ltd. Roads and sewers on the Belah estate: *J. Laing & Son, Ltd.

Colwyn Bay.—Three blocks of three-storey flats, for TC: *T. Alun Hughes, Ltd., Hillside Yard, Rhos-on-Sea, £45,323.

Coventry.—Following for EC.—Stage 2 of Woodlands sec. sch.: *Howard & Farrow, Ltd., 1, Russell-par., London. Stage 1 of Green Farm comp. sch.: *Bristol Aeroplane Co., Ltd., Weston-super-Mare.

Coventry.—Ind Coope & Allsopp, Ltd., are the lessees of a new super-luxury hotel to be erected on a corner site overlooking the new City-sq. The architects are W. S. Hattrell & Partners, F/AA.RIBA, 1, Queen's-rd., Coventry. Developers of the scheme are Ravensell Properties, Ltd.: *Sir Robert McAlpine & Sons, Ltd.

Darlington.—Erection of 28 houses on the Firth Moor site, for TC. E. A. Tornbohm, Boro' A: *R. Blackett & Son, Bondgate, Darlington, £35,412.

Dudley.—Erection of a new clinic at Holly Hall, for BC: *Batham & Beddall, Ltd., Moor-st., Brierley, £17,559.

Dumbartonshire.—Patent concrete flooring and allied works, for 1,236 houses at the Drumchapel housing site (contract 3). Archibald G. Jury (F), Council Housing Offices, The Trongate, Glasgow: *Concrete, Ltd., Falkirk, £61,536.

WOOD BLOCKS
FOR HOUSING
"B" GRADE FLOORS IN
OAK
GURJUN
IROKO
etc.
1" nom. **17/6** per yd.
DELIVERED TO VAN AT MILL
approx. **25/-** per yd.
LAID COMPLETE
VIGERS BROS.
LTD.
LUDGATE BROADWAY
LONDON EC4 CIT. 2111

Dumbartonshire.—Erection of 1,897 houses on the Drumchapel housing site, and at the Castlemilk housing site, for Glasgow Corp. Archibald G. Jury (F), Council Housing A, Housing Offices, The Trongate, Glasgow. Contractors: *Lawrence (Cresswell), Ltd.; *John Lawrence & Co. (Glasgow), Ltd.; *James Crawford & Sons, Ltd.: *Melville, Dundas & Whitson, Ltd.; *MacTaggart & Mickle, Ltd. (all of Glasgow).

Durham.—Erection of two classrooms in "Orlit" construction at Esh Winning cty. sch., for CC: *Tarslag, Ltd., Bowesfield-la., Stockton-on-Tees.

Felling (Co. Durham).—Erection of two shops and flats in Leam-la., for UDC. Housing A, R. Morton: *Direct Labour, £7,000.

Gateshead.—Factory alterations, Team Valley trading estate, for Havmor, Ltd., pie manufacturers. Architects, Arthur & Kirkup, 13, Swinburne-st., Gateshead: *Anglo-Scottish Construction Co., Ltd., Gosforth, Newcastle.

Gateshead.—Erection of additional drawing office accommodation at Kingsway, Team Valley, for Huwood Mining Machinery Co., Ltd. Architects, Jack Cotton, Ballard & Blow, Haymarket House, Newcastle-on-Tyne: *Anglo-Scottish Construction Co., Ltd., Gosforth, Newcastle-on-Tyne.

Gateshead.—Factory additions, Team Valley trading estate, for Sigmund Pumps, Ltd. Architects, Rosenberg & Mardall, 2, Hyde Park-pl., London, W2; *Holland & Hannen and Cubitts, Ltd., Howdon-on-Tyne.

Gloucester.—Erection of the attested section of the new cattle market, St. Oswald's-rd. The project, which is est. to cost £96,000, consists of two steel-framed sale rings with tiers of seats to hold 350 persons. These are joined by low corridors to 12 bays of concrete barrel vaulting, each 65 ft. by 25 ft. 6 in.: *Holborow & Sons, Ltd., Tetbury.

Heywood.—Four houses at Egerton site, for TC: *James Berry, Ltd., Heywood.

Leeds.—Erection of Parklands sec. mod. sch., for EC: *W. J. Simms, Sons & Cooke, Ltd., Nottingham, £194,339. Erection of Swinnow-la. sec. mod. sch.: *M. Harrison & Co., Ltd., Post Hill Quarries, Farnley, Leeds, £130,758.

Leeds.—Adaptations at Statuary Gallery, for TC: *Pickard & Co., Ltd., Dorrington-st., Leeds, £5,858.

Leominster.—12 flats at Mortimer-st. site, for BC: *F. B. May, Leominster, £14,966.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended January 16:—*Building Work*: Wm. Harbrow, Ltd., 214, Rotherhithe New-rd., London, SE16; Kerridge (Cambridge), Ltd., Sturton-st., Cambridge; Walter G. Birch (Harrogate), Ltd., Montpelier House, Harrogate. *Resurfacing Work*: Geo. Wimpey & Co., Ltd., Hammersmith-gr., London, W6. *Artificers' Work*: R. Corben & Son, Ltd., West Borough, Maidstone.

London (Metropolitan Police).—Formation of new yard entrance and erection of front boundary wall at Waltham Abbey police stn.: *W. T. Yates, Ltd., £905. External redecorations and repairs at Long-la. married quarters: *J. Hoare & Son, £564. Receiver's office extension at New Scotland Yard: *Patman & Fotheringham, Ltd., £26,213.

¶London (MoW).—Contracts placed by MoW during week ended January 9. *London*: Queen Mary's Hospital, Roehampton, erection of an extension to boiler house, E. Gostling (Builders), Ltd., 81-85, Whitton-rd., Twickenham, Middx. *Bedfordshire*: Luton National Assistance Board, Dunstable, adaptations, Johnson, Fuller, Ltd., 401a, Dunstable-rd., Luton, Beds. *Glamorganshire*: MT Overland-rd., Mumbles, Glam, erection of coastguard dwellings, offices, LSA house and duty rooms, Bennett Bros. (Contrs.), Ltd., Heathfield Works, Carlton-ter., Swansea; HMSO, 109, St. Mary-st., Cardiff, alterations, new shop front and entrance door, Miles Bros., Ltd., John-st., Cardiff. *Inverness-shire*: Lochboisdale, erection of post office garage and workshop, Scottish Tarmacadam & Asphalte Co., Ltd., 44-52, Bilbao-st., Glasgow, C5. *Lancashire*: JOP Govt. Buildings, Julia-st., Strangeways, Manchester, internal decorations, Wm. Thompson & Co. (Contractors), Ltd., 58-60, Gt. Ducie-st., Strangeways, Manchester; Meanygate, Barber Bridge, Preston, erection of 30 houses, Pius A. Baines & Son (Preston), Ltd., Paley-rd., Preston.

¶London (War Dept.).—Works contracts placed by WD during week ended January 9:—

Nottinghamshire: Building, F. Perks & Son, Ltd., Nottingham. *Kent*: Building work, R. J. Barwick, Dover. *Norfolk*: Road repairs, Acme Building Co. (Northampton), Ltd., Northampton. *London*: Miscellaneous, G. Potton & Sons, Ltd., London.

Midlothian: Building work, Wm. Paris, jun., Broxburn. *Wiltshire*: Hutting, James & Crockerell, Ltd., Durrington. *Hampshire*: Miscellaneous, James Ball & Son, Ltd., Cowes; Building, E. J. Logan (Putney), Ltd., Putney, SW15.

Nantwich.—Four shops with flats and garages at Wistaston estate, for RDC: *Direct Labour.

Newcastle-on-Tyne.—C. A. Parsons, Ltd., engineers, Heaton, Newcastle-on-Tyne, are to make further extensions to their works by adding a new bay to hold a 200-ton overhead crane and two 40-ton cranes: *Stephen Easten, Ltd., Westgate Grange, Newcastle-on-Tyne.

Northamptonshire.—Corby proposed gram. sch. for CC. A. N. Harris, FRIBA, Cty. A, Northampton. Reinforced concrete framework: *Gee, Walker & Slater, Ltd., Derby, £41,977. General building contractor: *Robert Marriott, Ltd., Rushden, £107,772.

North Shields.—Work is to start on the erection of a Presbyterian Church in Verne-rd., North Shields. Architect, A. K. Tasker, Trinity-bldgs., New Bridge-st., Newcastle-on-Tyne: *Hastie D. Burton, Ltd., King-st., North Shields, £14,000.

Penge.—Erection of flats at Anerley-vale, for UDC:—
F. & H. F. Higgs, Ltd., SE24 .. .. withdrawn
Kerridge (Cambridge), Ltd., SE6 .. .. £83,838
Foven Construction Co., Ltd., St. Mary Cray, Kent 80,609
W. Loweth & Sons, Ltd., SW8 79,376
Hampton & Sons, Ltd., SW1 76,306
J. C. Bowyer, Ltd., SE19 76,178
A. Roberts & Co., Ltd., SW1 75,944
Pitchers, Ltd., N7 73,070
T. Ringham & Co., Ltd., SW19 72,832

Penge.—Erection of flats at Trenholme estate, for UDC:—
J. C. Bowyer, Ltd., SE19 .. .. .. £23,983
T. Ringham & Co., Ltd., SW19 23,481
Penge Urban District Council 23,167

Plymouth.—Reinstatement of sports fields in the Plymouth area, for the Admiralty: *W. L. Bell, Woolavington, Bridgwater.

Preston.—87 houses at Brookfield estate, for TC: *Pius A. Baines, Ltd., Paley-rd., Preston.

Rawtenstall.—20 bungalows adjoining Bacup-rd., Waterfoot, for TC: *D. L. Grimshaw & Co., 35/37, Burnley-rd., Waterfoot, Rossendale, £20,980.

Rutherglen.—New houses on the Eastfield housing site, for Lanarkshire CC. Samuel MacColl (A), Housing A, County-bldgs., Beckford-st., Hamilton West. Excavation, brick, building and allied works: *Andrew Wright & Sons (Builders), Ltd., Blantyre. Joinery, carpentry and allied works: *Thomas Henderson & Sons, Ltd., Stonehouse. Roof tiling and allied works: *A. C. Whyte & Co., Ltd., Glasgow. Plumbing, sanitary engineering and allied works: *Robert White, Ltd., Blantyre. Plaster, lathing and allied works: *George Bryson & Co., Ltd., Motherwell-Wishaw. Electrical fittings installation and allied works: *David Fisher (Burnbank), Ltd., Burnbank. Painting, decorating and allied works: *William MacDougall, Bellshill.

Sheffield.—Nine police houses at Vicarage-la., Dore, for TC: *Melling Bros., Ltd., Sheffield, £15,580. Alterations and improvements at Woodhouse cty. sch., for EC: *I. Groves & Sons, Ltd., Sheffield, £3,152.
Alterations and improvements at Brightside cty. sch.: *Direct Labour, £3,193.

Somerset.—Erection of 10 pairs of police houses at Comeytrowe, for Standing Joint Com.: *Hartnell & Williams, Taunton, £37,984.

Sunderland.—Erection of 48 houses on the Grindon estate. Architects, W. & T. R. Milburn, 17, Fawcett-st., Sunderland: *George H. Plemper, Ltd., St. Hilda's Works, Newcastle-on-Tyne.

Upavon.—Camp road repairs at Upavon, nr. Pewsey, Wilts: *Beric, Ltd., 131, Bargates, Christchurch, Hants.

Upholland.—16 flats at Alma Hill site, for UDC: *L. Dickinson, Upholland, £17,337 (revised tender).

Washington (Co. Durham).—Erection of 50 houses at Oxford-ave., at £61,914, for UDC. T. E. Crowe, S. *Direct Labour.

Washington.—50 houses at Oxford-ave., for UDC: *Direct Labour, £61,914.

Wellingborough.—Erection of 12 shops, 15 flats, eight maisonettes and public conveniences on Crovland estate. ‡Drabble Construction, Ltd., £107,908.

West Bromwich.—12 shops and 14 flats at Redwood-rd., Yew Tree estate, for BC: *W. B. & F. T. Archer, Rookery-rd., Birmingham, £43,846.

FEDERATION OF MASTER BUILDERS

UNITE FOR STRENGTH

FEDERATION OF MASTER BUILDERS

THE LARGEST INDIVIDUALLY REPRESENTATIVE ORGANISATION IN THE KINGDOM

ENROL NOW
SUBSCRIPTION £5.5.0 p.a.
London Region—37 Areas
And over 100 Provincial Branches

Phone or write:
SECRETARY,
26, GT. ORMOND ST., HOLBORN, W.C.1
Tel.: CHAncery 7583 (4 lines)
Telegrams: "EFEMBE, Holb., London"

The Address of your Branch Secretary will be forwarded.

STEEL-CRETE
SUPER-HARD DUSTLESS SURFACES
HAVE BANISHED ALL TROUBLES WITH OLD OR NEW
FLOORS
Inspect one that has withstood
HEAVY TRUCKING FOR 30 YEARS
and consult
STEEL-CRETE LTD.
Savoy House, 115/116, Strand, London, W.C.2
Tel.: Temple Bar 5621

Boyle's "Patent Air Pump" Ventilator
OVER TWO MILLION IN USE
ROBERT BOYLE & SON
VENTILATING ENGINEERS
98 HERRIES STREET, KILBURN LANE, W.10
Tel.: LADbroke 2879

BROAD-ACHESON
CELLULAR BLOCKS
once used - always used
BROAD & CO. LTD. 4 SOUTH WHARF
LONDON, W.2 · PADdington 7061.

THE ESSEX STEEL SCAFFOLDING Co LTD
SALES, HIRE
ERECTION
CRADLES
9A HIGH BEECH ROAD
LOUGHTON ESSEX
TEL: LOUGHTON 5022

WOOD BLOCK FLOORS
STEVENS & ADAMS LTD.
Victoria Works,
Point Pleasant, Wandsworth, S.W.18

W&M NEGUS LTD
Building Contractors
Station Works, King James St., Southwark, S.E.1.
Telephone:— Waterloo 5474 (3 lines)

GALBRAITH
BROTHERS LIMITED
BUILDERS
CONTRACTORS
& ENGINEERS
Registered Office:
61 BARTHOLOMEW CLOSE
E.C.1
MONarch 7597-8
Works:
CRAYFORD BRIDGE
KENT
Bexleyheath 5651-4